EXHIBIT B

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INTEGRA MED ANALYTICS LLC

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA and THE STATE OF CALIFORNIA, *ex rel.* INTEGRA MED ANALYTICS LLC,

Plaintiff,

v.

MARINER HEALTH CARE INC.; GRANCARE LLC (d/b/a La Crescenta Healthcare Center, Santa Monica Health Care Center, The Rehabilitation Center of Santa Monica, Parkview Healthcare Center, Vale Healthcare Center, Creekside Healthcare Center, Skyline Healthcare Center-San Jose, Driftwood Healthcare Center-Hayward, Fremont Healthcare Center, Monterey Palms Health Care

CASE NO. 3:18-CV-00653-EMC

FIRST AMENDED COMPLAINT

DEMAND FOR JURY TRIAL

Center, Driftwood Healthcare Center-Santa Cruz, Autumn Hills Health Care Center, Almaden Health and Rehabilitation Center, Palm Springs Healthcare & Rehabilitation Center); VERDUGO VISTA OPERATING COMPANY, LP SACRAMENTO OPERATING COMPANY LP; SAN RAFAEL OPERATING COMPANY LP; FMSC SAN RAFAEL OPERATING COMPANY LP; SKYLINE SAN JOSE OPERATING COMPANY, LP; DRIFTWOOD HAYWARD OPERATING COMPANY, LP; INGLEWOOD OPERATING COMPANY LP; HAYWARD HILLS OPERATING COMPANY, LP; FRUITVALE LONG TERM CARE LLC; SSC OAKLAND FRUITVALE OPERATING COMPANY LP; MONTEREY PALMS OPERATING COMPANY, LP; DRIFTWOOD SANTA CRUZ OPERATING COMPANY, LP; AUTUMN HILLS OPERATING COMPANY, LP; and ALMADEN OPERATING COMPANY, LP;

Defendants.

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TABLE OF CONTENTS

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This is an action brought by Plaintiff/Relator Integra Med Analytics LLC ("**Relator**") on behalf of the United States of America pursuant to the Federal False Claims Act, 31 U.S.C. § 3729, *et seq*., and the State of California pursuant to the California False Claims Act, Cal. Gov't Code § 12650, *et seq*. In support thereof, Relator alleges as follows:

INTRODUCTION

1. Relator brings this action to recover more than $94.58 million paid by Medicare and California's Medicaid program, Medi-Cal, to a network of skilled nursing facilities ("**SNFs**") in California operated by Mariner Health Care Inc. (collectively, "**Defendants**" or "**Mariner**"). Relator conducted a multi-faceted investigation of Defendants' business practices—including numerous interviews of Defendants' former employees—which uncovered that Mariner systematically caused its facilities to provide patients excessive and unnecessary rehabilitation services. Defendants then fraudulently obtained reimbursement for those services from both Medicare and Medicaid. Relator's extensive statistical and econometric analyses reliably indicate that Defendants carried out this scheme to great effect.

2. Between 2011 and 2016, Mariner received approximately $437 million in Medicare reimbursements for skilled nursing care, and it received an estimated $17 million more from Medi-Cal as coinsurance on Medicare SNF claims. Like all SNFs, Medicare compensated Mariner according to the quantity of therapy provided to its patients, and Medi-Cal covered the required copayments for dual-enrolled patients. Thus, increasing the quantity of a patient's therapy leads to a higher per-diem reimbursement from Medicare, and excessive lengths of stay leads to higher copayments from Medi-Cal. Relator has uncovered a system-wide scheme that Defendants implemented to fraudulently bill for unnecessary "Ultra High Rehab"—the most intensive therapy provided by SNFs—and to keep patients in Ultra High

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Rehab longer than necessary.[1]

3. Defendants' scheme had three major components. First, in order to maximize the amount of Ultra High Rehab provided to patients, Mariner management pressured therapists to bill for medically unnecessary therapy to patients either too healthy or too sick to benefit from such treatment. Second, Mariner pressured staff to keep patients admitted for longer than medically necessary in order to extend their lengths of stay. Third, Mariner promoted the billing of services that did not qualify as therapy, as well as services that were not actually provided at all. This three-pronged scheme was pushed not only by regional management, but by upper management, including by ownership and other executives.

4. In addition to uncovering the specific nature of Defendants' scheme set out above, Relator's econometric analyses reliably demonstrate that Defendants carried out their scheme to great effect. For instance, Relator's benchmarking analysis shows the dramatic degree to which Defendants' use of Ultra High Rehab compared to that of other SNFs around the country. Relator's fixed-effect regression controlled for specific patient characteristics that might otherwise explain the disparity. In other words, the regression allowed Relator to isolate the amount of additional Ultra High Rehab a patient received simply by virtue of being admitted to a Mariner facility.

5. Relator's analysis shows that Mariner maximizes revenue by treating a relatively high proportion of patients with exactly 100 days of Ultra High Rehab, the maximum number of days that are reimbursable by Medicare for a patient's illness. In other words, Mariner is intentionally providing unnecessary Ultra High Rehab up

[1] To be conservative, only the cases with excessive Ultra High Rehab have been identified herein as fraudulent, even though Mariner's billing excessive length of stay stretched across every level of rehabilitation services.

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until the last day possible. Tellingly, Mariner administers Ultra High Rehab for ***exactly 100 days at 7.72 times the rate of other facilities***. Econometric methods show that the probability that this difference is random is less than 1 in 100 million.

6. Relator's discontinuity analysis examined the effect of Mariner's acquisition of new SNFs. When Mariner acquired Fruitvale Long Term Care LLC ("**Fruitvale**") in 2014, Relator found a statistically and economically significant increase in the amount of Ultra High Rehab provided to patients after the acquisition occurred. The increase is highly significant even after controlling for potential changes in patient and demographic characteristics after the acquisition, which indicates that it is Mariner that is responsible for the excessive Ultra High Rehab that was billed to Medicare and Medi-Cal.

7. In short, Relator's analyses demonstrate in numerous ways—and with a high degree of statistical significance—that Defendants' fraudulent scheme was pervasive and system-wide across all Mariner facilities. According to Relator's analyses, between 2011 and 2016, Defendants submitted or caused to be submitted more than $94.58 million in false claims for Medicare reimbursement and additional false claims for reimbursement from Medicaid in an amount to be proven at trial.[2]

JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction over this action pursuant to 31 U.S.C. § 3732(a) and 28 U.S.C. § 1331. This Court has personal jurisdiction over the Defendant pursuant to 31 U.S.C. § 3732(a) because Defendants transacted business in this District.

9. Venue is proper in this District under 31 U.S.C. § 3732(a) and 28 U.S.C. § 1391(b) and (c). During the relevant time period, a substantial portion of

[2] Mariner's false claims to Medi-Cal arise from coinsurance payments for Medicare patients that were dual enrolled in Medi-Cal. If Mariner's Medicare patients were dual enrolled in Medi-Cal at a similar rate to county-level averages, Relator estimates that Mariner submitted approximately $4.17 million to Medi-Cal.

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the events complained of that gave rise to Plaintiff's claims occurred in this District in violation of 31 U.S.C. § 3729 and § 3730. Further, 31 U.S.C. § 3732(a) provides for nationwide service of process.

10. There has been no public disclosure of the allegations herein. To the extent that there has been a public disclosure unknown to Relator, Relator is an "original source" under 31 U.S.C. § 3730(e)(4). Relator has direct and independent knowledge of the information on which the allegations are based and voluntarily provided the information to the Government before filing this *qui tam* action based on that information. *See* 31 U.S.C. § 3730(e)(4).

PARTIES

11. Relator Integra Med Analytics LLC is a Texas limited liability company with its principal place of business in Austin, Texas.

12. Relator is an associated company of Integra Research Group LLC, which specializes in using statistical analysis to uncover and prove fraud. Integra Research Group LLC's sister company, Integra REC LLC, has extensive experience using statistical analysis to detect and prove fraud, specifically in mortgage-backed securities and other financial markets. Integra REC LLC has successfully initiated and settled cases under the False Claims Act.

13. Defendant Mariner Health Care Inc. is a Delaware Corporation with its headquarters located at One Ravinia Drive, Suite 1500, Atlanta, GA 30346. Mariner's registered agent is listed as The Corporation Trust Company, 1209 Orange Street, Wilmington, Delaware 19801. Defendant owns, operates, and/or controls the Defendant facilities.

14. Defendant Grancare LLC ("**Grancare**") (d/b/a La Crescenta Healthcare Center, Santa Monica Health Care Center, The Rehabilitation Center of Santa Monica, Parkview Healthcare Center, Vale Healthcare Center, Creekside Healthcare Center, Skyline Healthcare Center-San Jose, Driftwood Healthcare Center-Hayward, Fremont Healthcare Center, Monterey Palms Health Care Center, Driftwood

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Healthcare Center-Santa Cruz, Autumn Hills Health Care Center, Almaden Health and Rehabilitation Center, Palm Springs Healthcare & Rehabilitation Center) is a Delaware limited liability company with its principal place of business at 920 Ridgebrook Road, Sparks, Maryland 21152. Grancare is registered to do business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017.

15. Grancare ran several of the Mariner SNFs at issue in this case, including: (i) La Crescenta Healthcare Center ("**Grancare La Crescenta**"), located at 3050 Montrose Avenue, La Crescenta, California 91214, with the assigned National Provider Identifier ("NPI") number 1851364194[3]; (ii) Santa Monica Health Care Center ("**Grancare Santa Monica**"), located at 1320 20th Street, Santa Monica, California 90404, with the assigned NPI number 1720051295; (iii) The Rehabilitation Center of Santa Monica ("**Grancare Rehab**"), located at 1338 20th Street, with the assigned NPI number 1083687560; (iv) Parkview Healthcare Center ("**Grancare Parkview**"), located at 27350 Tampa Avenue, Hayward, California 94544, with the assigned NPI number 1609840115; (v) Vale Healthcare Center ("**Grancare Vale**"), located at 13484 San Pablo Avenue, San Pablo, California 94806, with the assigned NPI number 1932172491; (vi) Creekside Healthcare Center ("**Grancare Creekside**"), located at 1900 Church Lane, San Pablo, California 94806, with the assigned NPI number 1811969355; (vii) Skyline Healthcare Center-San Jose ("**Grancare Skyline**"), located at 2065 Forest Avenue, San Jose, California 95128, with the assigned NPI number 1902879471; (viii) Driftwood Healthcare Center-Hayward ("**Grancare Driftwood Hayward**"), located at 19700 Hesperian Boulevard, Hayward, California 94541, with the assigned NPI number 1487627725; (ix) Fremont Healthcare Center ("**Grancare Fremont**"),

[3] An NPI number is a unique identification number assigned to health care providers by the Centers for Medicare and Medicaid Services ("**CMS**").

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located at 39022 Presidio Way, Fremont, California 94538, with the assigned NPI number 1366414906; (x) Monterey Palms Health Care Center ("**Grancare Monterey Palms**"), located at 44610 Monterey Avenue, Palm Desert, California 92260, with the assigned NPI number 1982676524; (xi) Driftwood Healthcare Center-Santa Cruz ("**Grancare Driftwood Santa Cruz**"), located at 675 24th Avenue, Santa Cruz, California 95062, with the assigned NPI number 1548232150; (xii) Autumn Hills Health Care Center ("**Grancare Autumn Hills**") 430 N. Glendale Avenue, Glendale, California 91206, with the assigned NPI number 1659343192; (xiii) Almaden Health and Rehabilitation Center ("**Grancare Almaden**"), located at 2065 Los Gatos-Almaden Road, San Jose, California 95124, with the assigned NPI number 1548232184; and (xiv) Palm Springs Healthcare & Rehabilitation Center ("**Grancare Palm Springs**"), located at 277 Sunrise Way, Palm Springs, California 92262, with the assigned NPI number 1699747659.

16. Defendant Verdugo Vista Operating Company, LP (together with Grancare La Crescenta, "**Verdugo Vista**") is a Delaware Limited Partnership. Verdugo Vista is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Verdugo Vista is an SNF located at 3050 Montrose Avenue, La Crescenta, California 91214, with the assigned NPI number 1699063370.

17. Defendant Sacramento Operating Company, LP ("**Sacramento**") is a Delaware Limited Partnership. Sacramento is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Sacramento is an SNF located at 7400 24th Street, Sacramento, California 95822, with the assigned NPI number 1538131032.

18. Defendant San Rafael Operating Company LP ("**San Rafael**") is a Delaware Limited Partnership. San Rafael is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West

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Seventh Street, Suite 930, Los Angeles, California 90017. San Rafael is an SNF located at 45 Professional Center Parkway, San Rafael, California 94903, with the assigned NPI number 1659610814.

19. Defendant FMSC San Rafael Operating Company, LP ("**FMSC San Rafael**") is a Delaware Limited Partnership. FMSC San Rafael is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. FMSC San Rafael is an SNF located at 45 Professional Center Parkway, San Rafael, California 94903, with the assigned NPI number 1376515817.

20. Defendant Skyline San Jose Operating Company, LP (together with Grancare Skyline, "**Skyline**") is a Delaware Limited Partnership. Skyline is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Skyline is an SNF located at 2065 Forest Avenue, San Jose, California 95128, with the assigned NPI number 1780972463.

21. Defendant Driftwood Hayward Operating Company, LP (together with Grancare Driftwood Hayward, "**Driftwood Hayward**") is a Delaware Limited Partnership. Driftwood Hayward is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Driftwood Hayward is an SNF located at 19700 Hesperian Boulevard, Hayward, California 94541, with the assigned NPI number 1871881557.

22. Defendant Inglewood Operating Company LP ("**Inglewood**") is a Delaware Limited Partnership. Inglewood is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Inglewood is an SNF located at 100 S. Hillcrest Boulevard, Inglewood, California 90301, with the assigned NPI number 1013989656.

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23. Defendant Hayward Hills Operating Company, LP ("**Hayward Hills**") is a Delaware Limited Partnership. Hayward Hills is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Hayward Hills is an SNF located at 1768 B Street, Hayward, California 94541, with the assigned NPI number 1801868302.

24. Defendant Fruitvale Long Term Care LLC ("**Fruitvale**") is a Delaware Limited Liability Company. Fruitvale is registered to conduct business in California, and lists its registered agent as Lawyers Incorporating Service, 2710 Gateway Oaks Drive, Suite 150N, Sacramento, California 95833. Fruitvale is an SNF located at 3020 East 15th Street, Oakland, California 94601, with the assigned NPI number 1508295478.

25. Defendant SSC Oakland Fruitvale Operating Company LP ("**SSC Oakland**") is a Delaware Limited Partnership. At all relevant times, SSC Oakland was registered to conduct business in California, with its registered agent listed as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. SSC Oakland is an SNF located at 3020 East 15th Street, Oakland, California 94601, with the assigned NPI number 1275670895.

26. Defendant Monterey Palms Operating Company, LP (together with Grancare Monterey Palms, "**Monterey Palms**") is a Delaware Limited Partnership. Monterey Palms is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Monterey Palms is an SNF located at 44610 Monterey Avenue, Palm Desert, California 92260, with the assigned NPI number 1326336009.

27. Defendant Driftwood Santa Cruz Operating Company, LP (together with Grancare Driftwood Santa Cruz, "**Driftwood Santa Cruz**") is a Delaware Limited Partnership. Driftwood Santa Cruz is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West

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Seventh Street, Suite 930, Los Angeles, California 90017. Driftwood Santa Cruz is an SNF located at 675 24th Avenue, Santa Cruz, California 95062, with the assigned NPI number 1457649436.

28. Defendant Autumn Hills Operating Company, LP (together with Grancare Autumn Hills, "**Autumn Hills**") is a Delaware Limited Partnership. Autumn Hills is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Autumn Hills is an SNF located at 430 N. Glendale Avenue, Glendale, California 91206, with the assigned NPI number 1245528926.

29. Defendant Almaden Operating Company, LP (together with Grancare Almaden, "**Almaden**") is a Delaware Limited Partnership. Almaden is registered to conduct business in California, and lists its registered agent as CT Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, California 90017. Almaden is an SNF located at 2065 Los Gatos-Almaden Road, San Jose, California 95124, with the assigned NPI number 1548558521.

SUBSTANTIVE ALLEGATIONS

A. Overview of Medicare Reimbursement for Skilled Nursing Rehab.

30. SNFs are designed to provide skilled care, including nursing and rehabilitation services, following an inpatient hospital stay. To be eligible for Medicare benefits for SNFs, a beneficiary must have an inpatient hospital stay of at least three days. Medicare will cover up to 100 days of SNF care per illness, and beginning on the 21st day of skilled nursing care, the beneficiary is responsible for a daily copayment of approximately $150.[4] This copayment may be covered by another form of insurance, including Medi-Cal.

31. Medicare reimburses SNFs at a per-diem rate based on one of 66

[4] *See, e.g.*, Medpac, *SNF Services Payment System* at 1 (Oct. 2015), *available at* https://goo.gl/n3FA1p. The average daily coinsurance for SNFs was $150.75.

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resource utilization groups ("**RUGs**"), which is determined by the amount of therapy and other services provided to patients. The RUGs can further be simplified into a few categories based on the amount of rehab provided. The highest category, referred to as Ultra High Rehab, is for patients receiving more than 720 minutes of rehab in a week. The lowest category, referred to as Low Rehab, represents patients receiving between 45 and 149 minutes of rehab per week. There are also patients who receive less than 45 minutes of rehab per week, but receive other types of skilled nursing services, which Relator has categorized as No Rehab. The highest categories of rehab are reimbursed at a higher rate than the lower categories of rehab, with the categories being differentiated based only on the quantity of rehab provided per week. Within each therapy category, the payment can vary for individual RUGs based on a patient assessment and other services provided. Relator's analysis focuses solely on the quantity of rehab provided.[5] These broad SNF RUG reimbursement categories are included in Table 1 below.

Table 1. Broad SNF RUG categories.
The following table shows the SNF categories based on the required weekly therapy amounts. Physical therapy, occupational therapy, and speech pathology all count towards the required therapy amounts.

Category	Therapy Amount
Ultra High Rehab	720+ minutes per week
Very High Rehab	500 – 720 minutes per week
High Rehab	325 – 499 minutes per week
Medium Rehab	150 – 324 minutes per week
Low Rehab	45 – 150 minutes per week
No Rehab	Less than 45 minutes per week

32. To receive Medicare coverage for skilled nursing services, the patient must be covered under Medicare Part A, have a qualifying inpatient hospital stay, and require skilled services to be provided for an ongoing condition treated during the hospital stay or a new condition acquired since the beneficiary started receiving

[5] *See generally id.*

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skilled nursing care.[6] Additionally, the skilled services must be reasonable and necessary for the diagnosis or treatment of the condition.[7]

33. A series of assessments are required to determine the reasonableness and necessity of skilled services provided, including the amount of rehab provided and consequently the resource utilization group and corresponding per-diem reimbursement amount. Daily assessments are conducted by staff at the SNF and these assessments must be periodically recorded and submitted to CMS. The initial assessment must be submitted to CMS within 8 days, and subsequent recorded assessments must be done on days 14, 30, 60, and 90 days.[8] Additional assessments are required when necessary to account for significant changes in the patient's condition.[9] These assessments are typically coordinated by a registered nurse at the SNF, along with the participation of other healthcare professionals;[10] the patient's plan of care is ultimately determined by a doctor's orders and the results of these reported assessments.[11]

34. By increasing the quantity of rehab provided, without otherwise changing any other care to a patient, an SNF can move the patient's claim to a higher RUG category and therefore get a higher pre-diem payment amount. For example, the RUGs in the category for Ultra High Rehab pay anywhere between $500 and $785 per day, depending on other patient characteristics and services

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[6] *See* Centers for Medicare and Medicaid Services, *Medicare Coverage of Skilled Nursing Facility Care* at 17 (Jan. 2015), available at https://goo.gl/Ms63mQ.

[7] *Id.* at 18.

[8] *Id.* at 25.

[9] *Id.*

[10] *See* Centers for Medicare and Medicaid Services, *Medicare-Required SNF PPS Assessments* (Oct. 2016), available at https://goo.gl/DtDK4e.

[11] *Id.*

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provided. Care for patients in the lower category of Medium Rehab is reimbursed from $300 to $580 per day, depending on patient characteristics and services provided. Therefore, even just reclassifying patients from the Medium category to the Ultra High category would typically yield an extra $200 per day per patient.[12] Treating patients for Ultra High Rehab when the patient no longer requires any skilled nursing services would yield an additional $574 a day on average. Thus, systems like Mariner have an economic incentive to push for more rehab treatment beyond what is considered medically reasonable or necessary.

B. Defendants engaged in system-wide scheme to submit false claims to Medicare and Medicaid.

35. Through its multifaceted investigation including interviews of Defendants' former employees, Relator uncovered that Mariner deliberately submitted false claims to Medicare. This included maximizing therapy minutes by billing for medically unnecessary therapy, keeping patients much longer than medically necessary, and improper billing. Furthermore, Relator uncovered that such fraudulent practices were not isolated events but were directly orchestrated by Mariner's owner and upper management.

1. Mariner pressured therapists to bill for medically unnecessary therapy.

36. Mariner systematically sought to maximize the number of its patients who could be billed at Ultra High Rehab—the Medicare RUG level with the highest daily reimbursement rate. To reach the Ultra High Rehab threshold of minutes,

[12] The SNF per-diem reimbursement amount is further adjusted based on the facility's location to reflect the additional cost incurred in some metropolitan areas. Relator has ignored those adjustments in order to focus on the marginal revenue that is attributed solely to its increased use of Ultra High Rehab. Accounting for these adjustments would only increase the marginal revenue Mariner receives through its excessive billing of Ultra High Rehab.

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Mariner submitted false claims that included fraudulently excessive or inappropriate therapy charges in a wide variety of situations, ranging from healthy patients that had no need for therapy to dying patients and patients otherwise too sick to benefit from therapy.

(a) Mariner provided Ultra High Rehab to healthy patients.

37. Numerous former employees described Mariner's policy of charging Medicare for patients who were too healthy to require therapy. For instance, a physical therapist at Pineridge Care Center remembered a patient that "could walk over two miles by himself and my supervisor would not let me discharge him. He stayed on for several weeks after I would try to discharge him." An occupational therapist at Vale Healthcare Center recalled a therapy patient that was "100% independent, walking to the store by himself."

38. Because the pressure from management was so great—and the scheme so pervasive—therapists and staff were in no position to stop the practice even if they recognized its impropriety. As a Director of Rehabilitation at The Rehabilitation Center of Santa Monica explicitly recounted, "There are times when you have to keep them on [therapy] even though it's not needed. You have to pick your battles." An occupational therapist at Vale Healthcare Center saw other therapists "treating Part A Medicare patients that were not qualified or recommended for therapy" and attributed this to lack of training of the therapists who "had not been exposed to other facilities to know how treatment should be done ethically."

39. In one particularly cynical example of Mariner's zeal for providing unnecessary therapy, Mariner used homeless people simply seeking a place to sleep as a source for Medicare reimbursements. One former physical therapist from the Fruitvale Healthcare Center said that the facility "kept placing homeless patients on therapy to use their 100 days even if they didn't need it." The physical therapist was instructed to "keep them on for the full 100 days and use all of their benefits" even

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though the therapist was recommending discharge. For one homeless patient at Pineridge Care Center, the supervisor would not allow the assigned physical therapist to discharge the patient for several weeks until the therapist showed their supervisor that the patient "could do squats without any assistance on a Bosu ball." The therapist at Fruitvale Healthcare Center noted that the majority of patients were homeless and non-participatory in therapy, recalling that "the patients just wanted food and a bed on the license of the therapist." A Director of Rehabilitation at the Rehabilitation Center of Santa Monica suspected Mariner of recycling homeless patients—routinely seeing multiple SNF stays for the same patient.

40. Just like Mariner's reluctant staff, reluctant patients also could not stop Mariner's scheme to maximize revenue. A physical therapist at Fruitvale Healthcare Center described a 90-year-old patient who was billed for UHR even though she didn't want therapy. After being instructed by the regional manager, the therapist continued to see this patient for fifteen minutes every day trying to initiate some type of treatment. Similarly, a Skyline Healthcare patient's relative said, "My uncle has been here for over a month and has expressed not wanting to be here." He went on to note that "most of the staff here is uncooperative and seem to only have 1 thing as a priority...and it's not the patient's overall wellbeing. They are interested in keeping people here for the money."

(b) <u>Mariner provided Ultra High Rehab to sick and dying patients that had no need for therapy.</u>

41. Mentally ill patients were just another source of easy potential revenue for Mariner's excessive therapy billing. An administrator at Pineridge Care Center underscored the connection between Mariner's high Medicare census goals and their treatment of mentally ill patients: "Our goal was 25 Medicare patients and that was almost an impossibility. The only way to hit it would be take paranoid schizophrenics and other mental health patients." A physical therapist at Fruitvale Healthcare Center treated a lady who was "hallucinating and calling out for her

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sister." The patient was billed for Ultra High Rehab, meanwhile the therapist was "trying to figure out why she wasn't on hospice." Similarly, a physical therapist at Monterey Palms Health Care Center described a patient with "full on dementia" who received 75-85 minutes of daily therapy that was "absolutely not appropriate."

42. Terminally ill patients were similarly seen as grist for Defendants' mill. An Occupational Therapist at Fruitvale Healthcare Center discussed her experience with dying patients: "Honestly, there were times where patients were terminally ill and I felt that they wouldn't be able to tolerate a lot of therapy." Nevertheless, management would still insist on billing therapy for these patients: "It came down to minutes. After evaluation, they would want 90 minutes." The OT told her manager about a terminally ill patient who could not tolerate 90 minutes of therapy. The manager instructed the OT to break up the therapy minutes by going to the patient multiple times a day. The OT said they were "definitely pushed to maximize the amount of minutes even if I thought it wasn't appropriate."

43. The above example was not an isolated incident. Relator has identified ***345 total claims in which Defendants provided patients with Ultra High Rehab up until the patient died***. For example, [redacted].[13]

44. [redacted]

[13] Defendants submitted (or caused to be submitted) Claim No. [redacted] to Medicare for this patient's admission.

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[redacted].[14]

45. [redacted]

[redacted].[15]

46. [redacted]

[redacted][16]

47. [redacted]

[14] Defendants submitted (or caused to be submitted) Claim No. [redacted] to Medicare for this patient's admission.

[15] Defendants submitted (or caused to be submitted) Claim Nos. [redacted] and [redacted] to Medicare for this patient's admission.

[16] Defendants submitted (or caused to be submitted) Claim Nos. 3[redacted] and [redacted] to Medicare for this patient's admission.

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[redacted].[17]

2. Mariner kept patients for longer than medically necessary.

48. To further maximize profit, Mariner inappropriately and excessively kept patients in their facilities where they could continue to bill Medicare for the patient's stay. Some of these patients should have been discharged home. Others needed more serious medical care than the skilled nursing facilities were equipped to provide but Mariner was reluctant to send patients to the emergency room, even if badly needed. When Defendants' employees tried to push back, management would simply amp up the pressure.

49. A Director of Rehabilitation at the Rehabilitation Center of Santa Monica described tension between therapists and management over when to discharge a patient: "it was hard for us as therapists, the patients met their goals, the patients reached a high level and ready for discharge. [Management] would ask more questions if something else can be done. I am not sure what else we can do other than riding with them [patients] on the bus when they leave." Numerous former employees told the same story. For instance, a therapist at Pineridge Care Center & Fruitvale Healthcare Center discussed excessive length of stay regarding patients that were kept for the 100 days allowed by Medicare even if the patients didn't need it. One of the therapist's patients at Pineridge Care Center stayed on for several weeks after the therapist tried to discharge the patient. Similarly, an occupational therapist at Fruitvale Healthcare said, "I would say it [therapy] is not working and they [management] would say maybe you could change the goals or anything to stretch out the stay. There were times where I would say we need to

[17] Defendants submitted (or caused to be submitted) Claim Nos. [redacted] and [redacted] to Medicare for this patient's admission.

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discharge this patient and the manager would say 'well maybe there are some other goals we should consider.' It wasn't appropriate by my clinical judgement."

50. Mariner's efforts to keep patients from being discharged is reflected by the California Department of Public Health's receipt of 59 complaints regarding "Admission, Transfer & Discharge Rights" for Mariner facilities from 2016 to 2019. Moreover, numerous patient testimonials from Mariner facilities also demonstrate Mariner's system-wide policy of pressuring patients and their families into keeping the patient admitted when doing so was not medically necessary. For instance:

- A Skyline Healthcare patient's relative commented on an entire month of unnecessary treatment given to her 102 year old aunt without consulting her primary care physician. "They should change the name to Hotel California where you check in and they'll never let you check out…until your insurance runs out."
- After being told conflicting stories by the facility and doctors as to whether his grandmother was ready for discharge from Skyline Healthcare, the patient's grandson concluded that "Skyline was lying to me so they could keep her in a bed to continue to collect money."
- A Fruitvale Healthcare patient's family member commented that the facility's staff "held [the patient] even though she wanted to come home but was threatened by the doctor."
- A patient at The Rehab Center of Santa Monica described her experience with another threatening doctor: "The day before I left a guy in a white coat I'd never seen before tried to bully and scare me into staying longer—he said it's too dangerous for you to go home with a swollen knee."
- Another patient's relative Staff at Autumn Hills Health Care Center told a patient's family "that [the patient] couldn't go home for several more days (probably just wanted to get more $$). Couldn't get our

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family member out of there fast enough!"

- Another person described Hayward Hills Healthcare Center: "Once the patient is in they will try to keep them there as long as possible. It is all a money game." Similarly, a Skyline Healthcare patient's niece said: "They are interested in keeping people here for the money obviously without truly giving necessary care."
- One person even recalled monetary threats to discourage discharge at Palm Springs Healthcare Center: "When leaving they forced threats about 1000's of dollars that would be due if we leave and that they would not bill her insurance and it would be out of pocket expense."

51. Not only did Mariner facilities extend lengths of stay for patients that were too healthy to remain admitted, they also extended lengths of stay for patients that should have been discharged to the emergency room. Relator discovered several disheartening accounts of Mariner's hesitancy to send patients to other facilities when serious medical issues arose:

- One Fruitvale Healthcare patient's grandson said "When I came there I called 911, my grandmother's big toe had turned black! They didn't notice it. They said we don't always check them…when the ambulance got there they tried to send them away telling them 'she's already being taken care of, there's no need to move her.'"
- A Rehab Center of Santa Monica patient's relative asked the head nurse to call 911 after being advised by the patient's outside doctor. However, when the nurse had still not called 911 over ten minutes later, he called 911 himself. When the patient arrived at the hospital, "We were advised at emergency that she was slipping into pneumonia and that the decision to bring her in was correct…To add injury to insult, they billed Medicare and her insurance for the day she didn't stay and the care they didn't provide."

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- The child of one Skyline Healthcare patient stated that, after her parent's condition worsened, the facility was still reluctant to send the patient to the emergency room: "It was after a lot of pleading [emphasis added] with the medical director that finally on a Tuesday they agreed to transport my father back to emergency room at VMC. However by then things were in bad shape and he passed away that night. Had it been for some timely attention by the medical director at Skyline and the nurses, perhaps my father would still be around."
- At Driftwood Healthcare, a patient died after Driftwood failed to discharge them despite having a serious infection for at least 3 days: "Driftwood called us to tell us that my grandmother wasn't breathing very well, and then WE had to call an ambulance for my grandmother to take her to the hospital, where we learned she was apparently septic for at least three days and her kidneys were failing. The small amount of urine she made was black in color. The doctors at the hospital were APPALLED that this nursing home did not notice this and just left her alone with a serious infection. Unfortunately, it was too late to save my grandmother and she died a few days later from septic shock."

52. In sum, whether too healthy or too sick, Mariner's goal was to keep its patients for the 100 days allowed by Medicare, regardless if they were too healthy or too sick.

3. <u>Mariner billed for services that did not qualify as therapy, and for services that Mariner never even provided.</u>

53. In its pursuit to maximize the billing of unnecessary therapy, Mariner also directed its staff to bill for non-therapeutic activities. A Director of Rehabilitation at The Rehabilitation Center of Santa Monica said that upper management "always made us look for more things to do even though it wasn't clinically appropriate." For instance, a former physical therapist at Fruitvale

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Healthcare Center recalled having a patient that was on Ultra High Rehab despite being bedbound. The regional manager demonstrated how to provide therapy by massaging the patient's arm and placing a one-pound weight in the patient's hand for wrist flexion exercises. In the physical therapist's professional opinion, this activity not only did not address any of the established functional goals, but it did not even classify as physical therapy.

54. Mariner's fraud was so blatant that they would bill Medicare for therapy minutes even when no medical services were being provided to patients. An occupational therapist at Vale Healthcare Center remembered a patient completely independent and walking to the store by himself on Medicare Part A. The therapist knew other Mariner therapists would walk with the patient to the store and count that as the patient's therapy session. A Director Of Rehabilitation recalls a situation regarding a contract therapist at The Rehabilitation Center of Santa Monica fraudulently billing by "double-dipping"—*i.e.*, charging for 8 hours of therapy at two Mariner facilities on the same day. When addressed, the Director Of Rehabilitation was instructed to keep quiet about the situation.

4. <u>Mariner leadership was directly involved in promoting medically unnecessary therapy and excessive lengths of stay.</u>

55. Relator's interviews of Mariner employees demonstrate that the examples provided above were not isolated, independent incidents but rather orchestrated by the highest levels of Mariner's leadership including the owner himself.

56. Relator heard from several Mariner employees that blame Mariner's excessive billing practices on upper management. According to an administrator at Palm Springs Healthcare Center, "the push [from management] is always for high RUGs." The administrator went on to note that financial meetings with management are "about tracking Ultra Highs and RUG rates." An administrator at Monterey Palms Health Care Center said, for his regional managers, "[Medicare] census was

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more important than patient care.. At that time it was RUG level. It was getting in more Medicare residents than any other."

57. A Director Of Rehabilitation at The Rehabilitation Center of Santa Monica said upper management questioned when they considered a patient ready for discharge. The director discussed having to talk with management when they wanted to take patients off Ultra High Rehab and put them on lower levels of therapy: "There was a time I was very frustrated and saying there is no way we can maintain this RUG level. We need to RUG them down. I had to discuss with the person who looks through all of that. Myself and our MDS Coordinator." When asked about who had the final say regarding RUG levels, they replied, "Ultimately it is the upper management." The director ended up quitting because of the unethical pressure from leadership: "I left because I was not comfortable providing therapy under their terms."

58. An administrator at Pineridge Care Center was "fired for not maintaining the Medicare census. Our goal was 25 and that was almost an impossibility." Another DOR was let go because "she wasn't willing to be all about the minutes" according to an administrator at Palm Springs Healthcare Center. That administrator described conflict between her and an MDS nurse who was trying to accurately document and assess the Medicare patients conditions: "It was a power struggle. Was corporate going to push their way or allow the ethical MDS do her job properly?" Ultimately, the administrator the struggle usually ended with "looking for other ways to keep the patient at a higher level."

59. Mariner leadership would have weekly calls to discuss individual patients and how to prolong their stay. Mariner used their phone meetings to implement their plans for excessive length of stay and exercise tight control over each patient. An administrator at Palm Springs Healthcare said management would "go through every patient and how they are progressing and finding reasons to prolong their stay and keep them on instead of basing it on patient outcome." The

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administrator specifically remembers that regional director Marylin Washington was "on the conference calls always trying to stretch things out and involved in the discharge." As the Director of Rehabilitation at The Rehabilitation Center of Santa Monica recounted: "I would say this patient is ready for discharge then you start hearing people talk that you didn't even know were on the call ask about different methods of keeping them on longer."

60. The pressure on staff to bill for medically unnecessary treatment was part of a common vision shared by Mariner's ownership, CEO, and Vice Presidents. A Director of Rehabilitation at The Rehabilitation Center of Santa Monica described a collective effort to influence treatment that included multiple regional Vice Presidents. The resume of one Senior Vice President of Operations boasts that they have "generated significant impact through the strategic and tactical direction of LOS [length of stay], RUG intensity, and UR [Ultra High Rehab]." To describe Mariner leadership, an administrator from Palm Springs Healthcare characterized Mariner as "the most micro-managed company I have ever been a part of," and said the CEO had "his pulse on every aspect of every single building." The CEO would meet with ownership in New York to establish plans and goals for the year. The CEO told this administrator on several occasions that ownership was involved with operational planning—which inevitably meant pushing for the Ultra High RUG. After the CEO met with ownership, the CEO would meet with the Director of Business Operations and Vice President of Operations who would then meet with administrators to go over the goals.

C. Relator's Methodologies

61. To detect patterns of fraud at Mariner, Relator employed unique algorithms and statistical processes to analyze SNF Medicare claims data obtained from CMS.[18] These proprietary methods have allowed Relator to identify with

[18] Only claims for patients admitted on or after January 1, 2011, and prior to October

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specificity the false claims made by the Defendant to fraudulently inflate revenue on Medicare claims. Relator's analysis focused on identifying excessive amounts of Ultra High Rehab beyond what would be considered reasonable or beneficial to patients given a particular illness, including instances where the patients no longer required any skilled nursing care.

62. To identify truly egregious patterns of excessive Ultra High Rehab, Relator employed a methodology that accounts for patient medical characteristics in determining the necessity of rehab. Specifically, Relator compared the rate of Ultra High therapy provided at Mariner to the rate of Ultra High therapy provided at other SNFs for patients with comparable principal diagnosis codes at their prior inpatient hospital stay. This benchmarking process is consistent with Medicare guidelines requiring that skilled nursing services be reasonable and necessary for the treatment of a specific medical condition.[19]

63. To conduct its analysis, Relator formed 589 groupings (or "**bins**") of similar principal diagnosis codes, of which 58 were relevant to Mariner's claims.[20] Within each of the bins Relator compared the average days of Ultra High Rehab at Mariner to the average days of Ultra High Rehab billed at all other SNFs receiving Medicare reimbursements as a benchmark. While Relator's precise benchmarking of medical billing is unique, experts have developed and applied similar benchmarks in financial return literature.[21] Benchmarking has the advantage of allowing for very

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1, 2016, were analyzed by the Relator to allow for analysis of the patient's entire length of stay. Relator also analyzed the associated inpatient hospital claims data from CMS for the SNF patients.

[19] See Centers for Medicare and Medicaid Services, Medicare Coverage of Skilled Nursing Facility Care at 18 (Jan. 2015), available at https://goo.gl/Ms63mQ.

[20] Relator included in the analysis any principal diagnosis categories that were used at least 100 times by Mariner.

[21] See the widely-used methodology developed by Kent Daniel, Mark Grinblatt,

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specific and comparative groupings. This avoids imposing specific linearity on the data, which in turn gives Relator's methodology more statistical power and precision.

64. Given that some natural variation in days of Ultra High Rehab among SNFs is expected, Relator used two filters to further ensure that it identified truly extremely abnormal usage. First, bins were only included where Mariner's days of Ultra High Rehab were either ***more than twice the national rate*** or were ***five days longer than at other facilities***. Second, Relator validated the results of its analysis by determining the statistical significance of each pattern used by Mariner.[22] Relator only flagged claim groupings where there was less than a ***1 in 1,000 chance*** of Relator's findings being due to chance.

65. For example, Mariner has many patients that were diagnosed with "Unspecified Septicemia"[23] during their preceding inpatient hospital stay. Relator has found that, of Mariner's 1,500 admissions with "Unspecified Septicemia", the average patient received 27.15 days of Ultra High Rehab. However, for the more than 700,000 patients admitted with "Unspecified Septicemia" at the nation's other SNFs, the average patient only received 12.46 days of Ultra High Rehab. In other words, Mariner's patients received twice as much Ultra High Rehab at an average cost of $574 per day.

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Sheridan Titman, Russ Wermers, *Measuring Mutual Fund Performance with Characteristic-Based Benchmarks*, The Journal of Finance, vol. 52(3) at 1035–1058 (1997). This methodology is first applied to measuring hedge-fund performance by John M. Griffin and Jin Xu, *How Smart Are the Smart Guys? A Unique View from Hedge Fund Stock Holdings*, Review of Financial Studies, Vol. 22.7 at 2531–2570 (2009).

[22] Relator's statistical significance is calculated by comparing the mean days of Ultra High Rehab at Mariner versus other facilities.

[23] Unspecified Septicemia includes ICD-9 diagnosis codes 0388, 0389, 449, 77181, 7907, 99591, and 99592.

66. To control for other explanations for the additional therapy billed at Mariner, Relator employed a fixed effect linear regression model with additional controls for patient characteristics. Regression analysis is well-established and has been used to pinpoint actors behind misreporting in financial and economic contexts.[24] The fixed effect linear regression analysis thus examines if Mariner gave Ultra High Rehab beyond what could be explained by diagnosis and patient characteristics. Through the regression, Relator isolated the amount of additional Ultra High Rehab a patient received just because of Mariner characteristics, since it controls for a variety of patient characteristics including age, gender, and race, as well as county demographic factors such as the unemployment rate, log median income, and urban-rural differences. Patient health characteristics and severity of illness are controlled by variables including the principal and secondary diagnosis codes of the patient's prior inpatient hospital visit, the existence of surgery, and the inpatient claim length of stay. This analysis again shows that the Ultra High Rehab being offered at Mariner is well outside acceptable norms, even after accounting for patient need.

67. Additional analyses performed by Relator rule out alternative explanations for why Mariner had an excessive amount of Ultra High Rehab. Relator ruled out that the excessive Ultra High Rehab was caused by the attending physician at the SNF or the attending physician during the patient's inpatient hospital stay. Indeed, physicians treating both Mariner patients and patients at other facilities had a much lower level of rehab at other facilities, indicating that it is Mariner rather than doctors driving Ultra High Rehab treatment. Relator also

[24] Tomasz Piskorski, Amit Seru, and James Witkin, *Asset Quality Misrepresentation by Financial Intermediaries: Evidence from the RMBS Market*, The Journal of Finance, Vol. 70.6 at 2635–2678 (2015); John M. Griffin and Gonzalo Maturana, *Who Facilitated Misreporting in Securitized Loans?*, Review of Financial Studies, Vol. 29.2 at 384–419 (2016).

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analyzed patients that received care at both Mariner and at other facilities to rule out that the excessive Ultra High Rehab was due to unique patient populations at Mariner. After considering these factors, Relator shows that the cause of the excessive Ultra High Rehab can be attributed to Mariner directly.

D. Defendants' False Claims

1. Mariner Facilities' False Claims for Reimbursement

(a) Mariner Consistently Uses Excessive Ultra High Rehab Across 58 Principal Diagnosis Groups

68. Mariner facilities fraudulently and consistently billed for excessive rates of Ultra High Rehab. To establish this finding, Relator assesses patients' medical need for rehab by categorizing patients according to 58 specific medical bins that are grouped by the principal diagnosis during the hospital stay prior to their admission to an SNF. Within each bin of patients with the same inpatient principal diagnosis, Relator compared Mariner's rate of Ultra High Rehab to the rate of Ultra High Rehab at other facilities. For example, nationwide, the average patient with "Pneumonia; Organism Unspecified" will end up receiving approximately 12 days of Ultra High Rehab, whereas the average patient with "Fracture of Neck of Femur (hip)" will end up receiving approximately 21 days of Ultra High Rehab. Relator's method accounts for the expectation that certain diagnoses might require greater amounts of Ultra High Rehab on average.

69. The bin-based comparison of the rate of Ultra High Rehab at Mariner versus at other facilities demonstrates Mariner's systematic effort to excessively bill Medicare for Ultra High Rehab. Panel A of Figure 1 shows rates of Ultra High Rehab at Mariner on the x-axis (horizontal) and the rates of Ultra High Rehab at all other SNFs on the y-axis (vertical). Each dot in Panel A represents a principal diagnosis code group (bin) that Mariner patients had at their prior inpatient hospital stay. The size of the dots is proportional to the number of claims at Mariner, so that larger dots represent proportionally more claims. If the rates of Ultra High Rehab at

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Mariner for each diagnosis code were similar to the rates at other SNFs, then the dots would cluster on the 45-degree line. In Panel A, the red dots to the right of the 45-degree line show that Mariner had higher rates of Ultra High Rehab for patients in ***every single one of 58 inpatient principal diagnosis groups***. The graph demonstrates that Mariner's use of Ultra High Rehab is not due to having sicker patients, but rather is widespread even after controlling for patient's hospital diagnosis prior to admission to an SNF. Additionally, Relator determined that the excess amount of Ultra High Rehab for patients of all 58 inpatient principal diagnosis groups was statistically significant. Each group had a less than 1 in 1,000 chance the difference in average Ultra High Rehab was due to chance.

70. Panel B of Figure 1 shows the distribution of the number of days of Ultra High Rehab administered to patients for all principal diagnosis codes, with Mariner in red and other facilities in blue. For other facilities, the number of days of Ultra High Rehab peaks at day 12.73, indicating that most patients at other facilities receive on average 12.73 days of rehab and very few receive more than 25. However, for Mariner, the distribution is shifted significantly to the right, peaking at 26.69 days of Ultra High Rehab. This also shows that Mariner has many more days of Ultra High Rehab across the principal diagnosis categories spectrum when compared to patients with the same principal diagnosis categories at non-Mariner facilities.

71. Thus, Mariner does not specialize in providing Ultra Rehab to particular types of patients with particular illnesses, but instead bills for excessive Ultra High Rehab indiscriminately across all of the patient diagnoses it sees. The probability that random chance accounts for Mariner's higher days of Ultra High Rehab relative to other facilities for all 58 inpatient diagnosis groups is less than 1 in 100 million, strongly indicating the amount of rehab provided was not anywhere close to the norms of medical practice.

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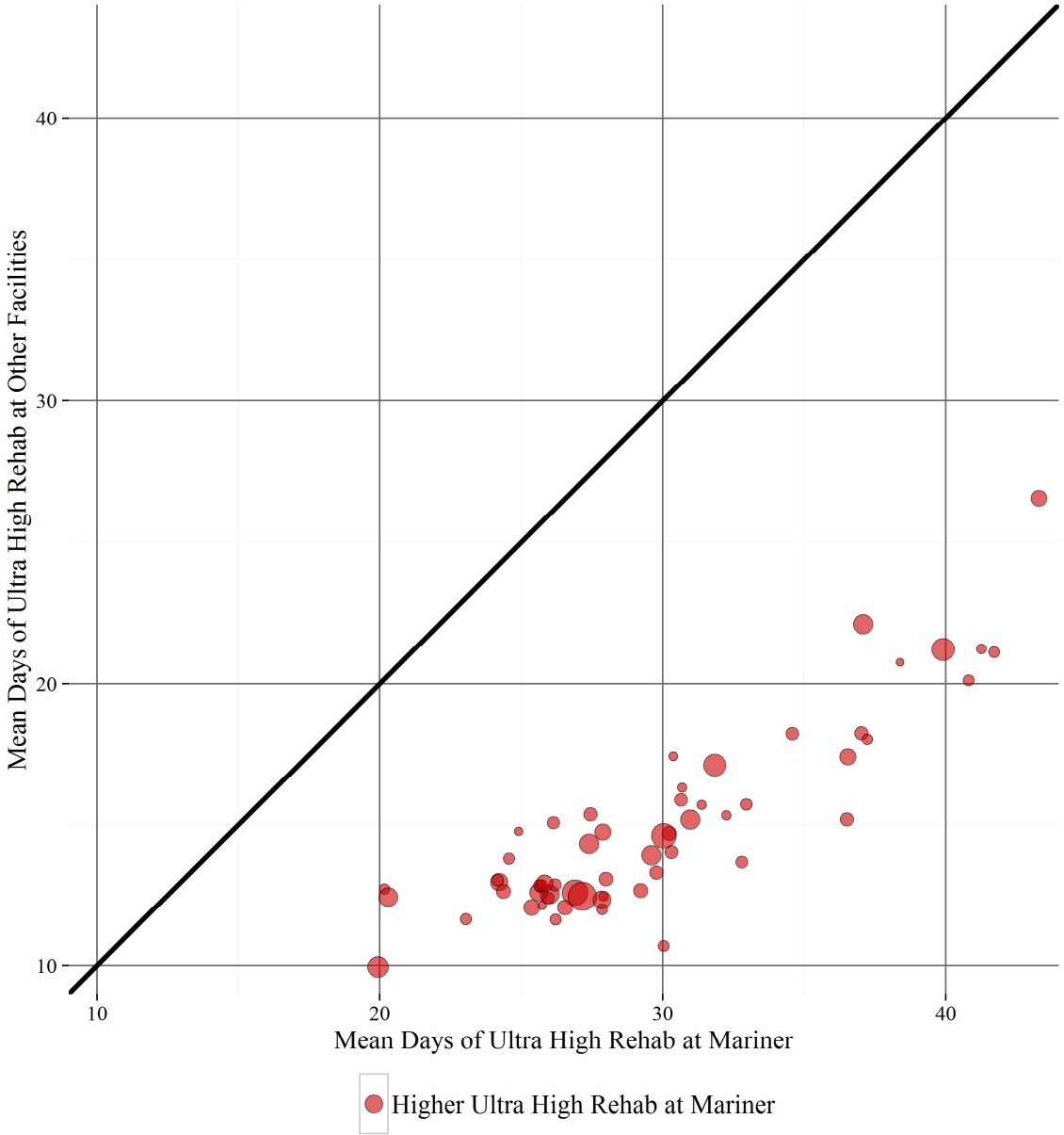
Figure 1. Average Days of Ultra High Rehab Based on Inpatient Principal Diagnosis for Mariner Versus Other Facilities.

Panel A shows, for 58 inpatient principal diagnoses (each represented by a dot), the average Ultra High Rehab treatment length for patients thus diagnosed at Mariner versus at non-Mariner facilities. We include only diagnoses where at least 100 patients were thus diagnosed at Mariner. Panel B shows the distribution of average days of Ultra High Rehab at Mariner versus at non-Mariner facilities for each of the principal diagnosis groups.

Panel A: Scatterplot of Average Ultra High Rehab by Inpatient Principal Diagnosis



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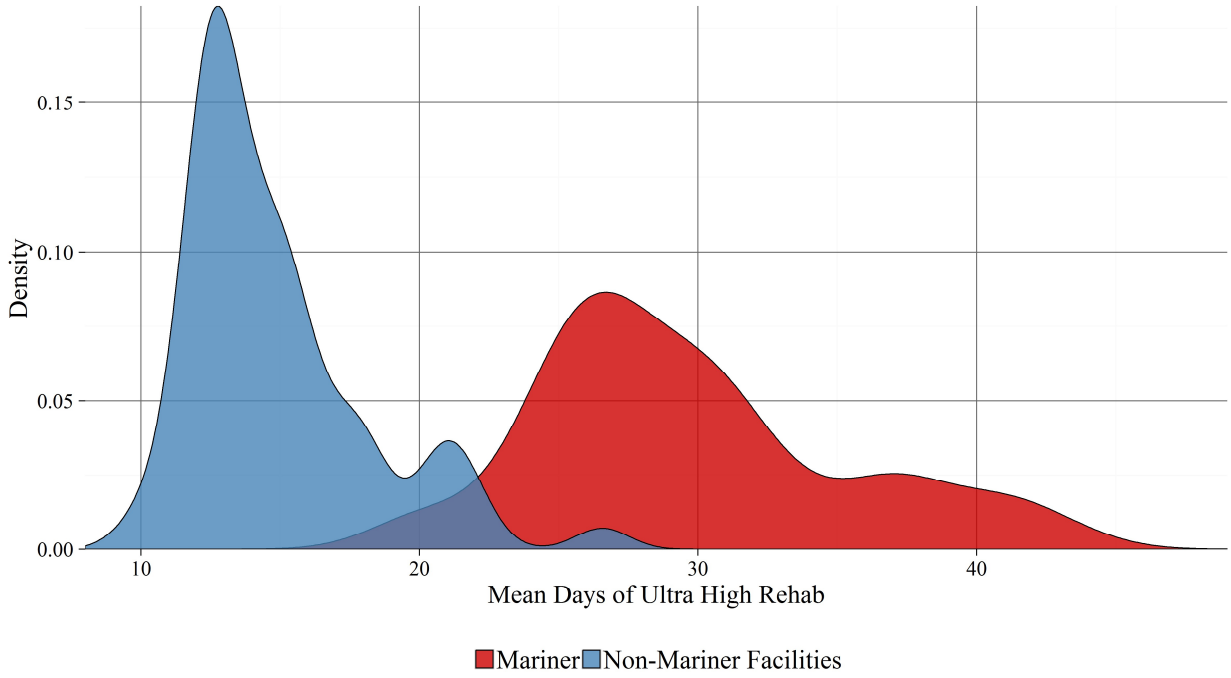
Panel B: Distribution of Average Days of Ultra High Rehab by Principal Diagnosis



72. Figure 2 below shows the top 20 inpatient diagnoses for patients who receive skilled nursing services at Mariner. The amount of days at Ultra High Rehab for Mariner is the red bar and the amount of days of Ultra High Rehab for all other SNFs are the blue bars. The graph shows that Mariner administers Ultra High Rehab at a much greater rate than other SNFs across ***all 20*** of the most common principal diagnosis categories.

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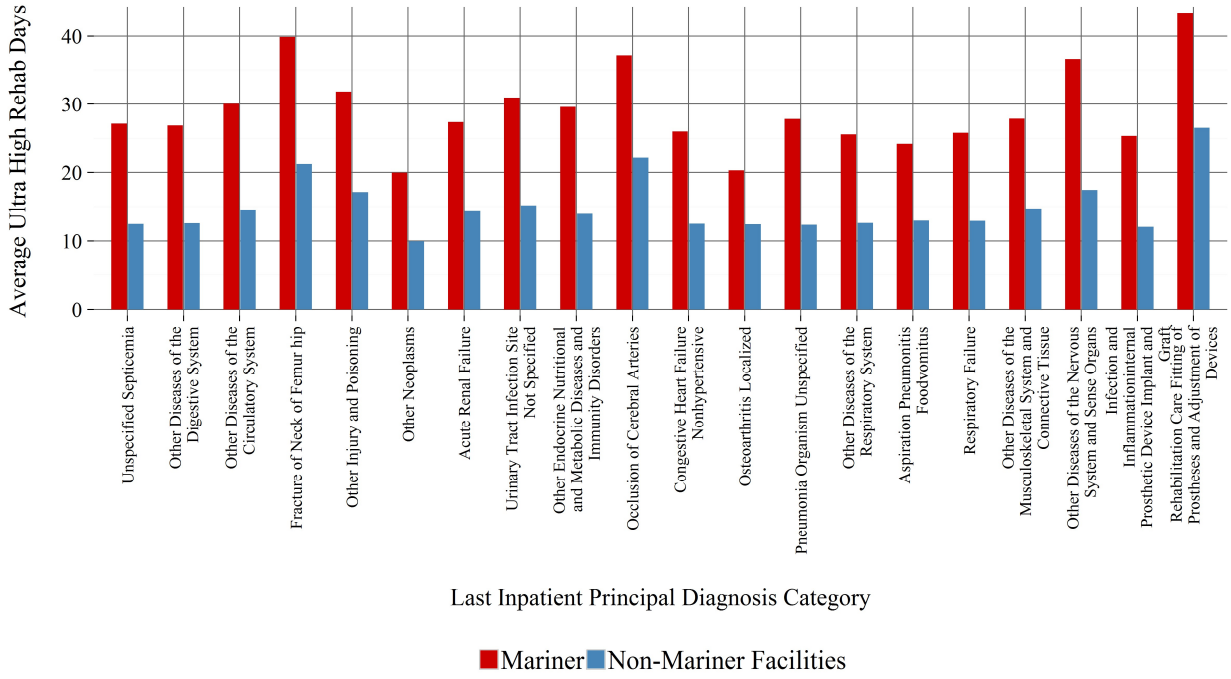
Figure 2. Rate of Ultra High Rehab for patients with the 20 most common inpatient principal diagnosis categories.

The following figure shows the twenty most prevalent inpatient diagnosis codes and compares the average days of Ultra High Rehab at Mariner versus other facilities. The diagnosis codes are ordered by the frequency with which they occur at Mariner, from most common to least common. For example, Unspecified Septicemia is the most common principal diagnosis code from the inpatient stay, occurring in more than 1,500 claims at Mariner.



73. To illustrate Mariner's excessive Ultra High Rehab, Mariner had 1,153 patients diagnosed with "Other Diseases of the Digestive System" during their inpatient hospital stay prior to admission. These patients on average received 26.89 days of Ultra High Rehab at Mariner. However, patients at other SNFs who were diagnosed with "Other Diseases of the Digestive System" only received 12.59 days of Ultra High Rehab on average.

74. Table 2 provides a detailed comparison of the rate of Ultra High Rehab across all of the 58 principal diagnosis codes, and demonstrates again how Mariner provides significantly more Ultra High Rehab than do other SNFs. The difference between Ultra High Rehab usage at Mariner and at the other facilities within each principal diagnosis grouping is extremely statistically significant, such that the probability that each of these differences could be due to random chance is less than

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one in 100 million for most principal diagnosis groupings.[25]

Table 2. Ultra High Rehab by Principal Diagnosis Code Group.

Principal Diagnosis Group	# Admissions Mariner	Avg. Days of Ultra High at Mariner	Avg. Days of Ultra High at Other Facilities	Mariner Rate Relative to Others	Statistical Significance[26]
Unspecified Septicemia	1,500	27.15	12.46	218%	< 1 in 100 Million
Other Diseases of the Digestive System	1,153	26.89	12.59	214%	< 1 in 100 Million
Other Diseases of the Circulatory System	1,010	30.05	14.60	206%	< 1 in 100 Million
Fracture of Neck of Femur (hip)	815	39.90	21.21	188%	< 1 in 100 Million
Other Injury and Poisoning	770	31.85	17.13	186%	< 1 in 100 Million
Other Neoplasms	633	19.95	9.94	201%	< 1 in 100 Million
Acute Renal Failure	551	27.39	14.32	191%	< 1 in 100 Million
Urinary Tract Infection; Site Not Specified	548	30.97	15.18	204%	< 1 in 100 Million
Other Endocrine; Nutritional; and Metabolic Diseases and Immunity Disorders	542	29.60	13.93	212%	< 1 in 100 Million
Occlusion of Cerebral Arteries	537	37.08	22.11	168%	< 1 in 100 Million
Congestive Heart Failure; Nonhypertensive	523	26.01	12.52	208%	< 1 in 100 Million
Osteoarthritis; Localized	517	20.30	12.43	163%	< 1 in 100 Million
Pneumonia; Organism Unspecified	472	27.85	12.33	226%	< 1 in 100 Million
Other Diseases of the Respiratory System	442	25.61	12.60	203%	< 1 in 100 Million
Aspiration Pneumonitis; Food/vomitus	411	24.22	12.96	187%	< 1 in 100 Million
Respiratory Failure	373	25.83	12.92	200%	< 1 in 100 Million
Other Diseases of the Musculoskeletal System and Connective Tissue	352	27.88	14.74	189%	< 1 in 100 Million
Other Diseases of the Nervous System and Sense Organs	341	36.54	17.43	210%	< 1 in 100 Million
Infection and Inflammation--internal Prosthetic Device; Implant; and Graft	316	25.37	12.06	210%	< 1 in 100 Million

[25] The probability is even considerably smaller in many cases, often less than 1 in 1 trillion, but we use this as a cutoff since the value is already incredibly small. All tests are under the two-sample z-test to compare the average days of Ultra High Rehab at other facilities to Mariner's average days of Ultra High Rehab. This test relies on a standard normal distribution.

[26] The statistical significance of these represents the probability that the difference between the average days of Ultra High Rehab at Mariner and other facilities is due to random occurrences.

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Principal Diagnosis Group	# Admissions Mariner	Avg. Days of Ultra High at Mariner	Avg. Days of Ultra High at Other Facilities	Mariner Rate Relative to Others	Statistical Significance[26]
Rehabilitation Care; Fitting of Prostheses; and Adjustment of Devices	314	43.31	26.56	163%	< 1 in 100 Million
Obstructive Chronic Bronchitis	281	26.54	12.05	220%	< 1 in 100 Million
Cellulitis and Abscess of Leg	254	30.23	14.69	206%	< 1 in 100 Million
Acute Myocardial Infarction	251	29.22	12.66	231%	< 1 in 100 Million
Other Infectious and Parasitic Diseases	249	24.38	12.63	193%	< 1 in 100 Million
Other Diseases of the Genitourinary System	231	28.00	13.07	214%	< 1 in 100 Million
Fracture of Vertebral Column without Mention of Spinal Cord Injury	217	37.02	18.25	203%	< 1 in 100 Million
E. Coli Septicemia	215	29.79	13.29	224%	< 1 in 100 Million
Other Symptoms; Signs; and Ill-defined Conditions and Factors Influencing Health Status	212	27.46	15.37	179%	< 1 in 100 Million
Delirium Dementia and Amnestic and Other Cognitive Disorders	212	36.52	15.19	240%	< 1 in 100 Million
Diabetes with Other Manifestations	206	30.30	14.04	216%	< 1 in 100 Million
Other Diseases of the Skin and Subcutaneous Tissue	194	25.70	12.83	200%	< 1 in 100 Million
Other Intracranial Injury	189	34.59	18.23	190%	< 1 in 100 Million
Other Central Nervous System Disorders	186	30.66	15.87	193%	< 1 in 100 Million
Other Diseases of the Blood and Blood-forming Organs	179	25.94	12.40	209%	< 1 in 100 Million
Malfunction of Device; Implant; and Graft	172	26.14	15.07	173%	< 1 in 2 Million
Intestinal Infection	170	26.19	12.87	204%	< 1 in 100 Million
Atrial Fibrillation	167	32.80	13.67	240%	< 1 in 100 Million
Other Mental Illness	154	32.95	15.73	210%	< 1 in 100 Million
Hypertensive Heart and/or Renal Disease	153	24.17	13.04	185%	< 1 in 3 Million
Postoperative Infection	147	25.64	12.86	199%	< 1 in 100 Million
Staphylococcal Septicemia	141	23.05	11.63	198%	< 1 in 1 Million
Alcohol-related Disorders	140	24.56	13.80	178%	< 1 in 5 Million
Congestive Heart Failure	140	26.22	11.62	226%	< 1 in 100 Million
Decubitus Ulcer	136	30.02	10.70	281%	< 1 in 100 Million
Other Gram Negative Septicemia	134	27.85	11.99	232%	< 1 in 100 Million
Fracture of Pelvis	134	40.81	20.12	203%	< 1 in 100 Million
Intracranial Hemorrhage	134	41.71	21.11	198%	< 1 in 100 Million
Infective Arthritis and Osteomyelitis (except That Caused by TB or STD)	123	20.16	12.72	159%	< 1 in 1 Thousand
Other Connective Tissue Disease	123	37.24	18.04	206%	< 1 in 100 Million
Osteoarthritis; Generalized and Unspecified	115	27.91	12.45	224%	< 1 in 100 Million

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Principal Diagnosis Group	# Admissions Mariner	Avg. Days of Ultra High at Mariner	Avg. Days of Ultra High at Other Facilities	Mariner Rate Relative to Others	Statistical Significance[26]
Other Fracture of Lower Limb	114	41.27	21.23	194%	< 1 in 100 Million
Hypovolemia	111	32.24	15.34	210%	< 1 in 100 Million
Pathological Fracture	110	30.68	16.32	188%	< 1 in 6 Million
Epilepsy	107	31.37	15.71	200%	< 1 in 38 Million
Syncope	105	30.38	17.44	174%	< 1 in 4 Million
Other Complications of Surgical and Medical Procedures	102	25.74	12.13	212%	< 1 in 15 Million
Schizophrenia and Other Psychotic Disorders	102	24.90	14.76	169%	< 1 in 2 Thousand
Fracture of Ankle	100	38.39	20.76	185%	< 1 in 25 Million

(b) The Excessive Use of Ultra High Rehab is Systemic Across Mariner Facilities and not Limited to a Few Facilities

75. To rule out that excessive billing of Ultra High Rehab is unique to a few Mariner facilities, Relator analyzed these trends for individual Mariner facilities and compared them to other individual SNFs. Figure 3 shows the average length of Ultra High Rehab provided to patients at all facilities in the United States and is ordered from facilities with the least Ultra High Rehab to facilities with the most. The trend of excessive Ultra High Rehab is prevalent across Mariner facilities. All 19 Mariner facilities are in at least the 85th percentile of all facilities based on average days of Ultra High Rehab. Out of more than 15,000 facilities with at least 100 Medicare patients, Mariner has 15 facilities in the top 1,000 facilities. It is difficult to overstate how mathematically impossible it would be for this scenario to exist due to random chance. The probability of Mariner randomly having 15 out of 19 facilities in the top 1,000 is less than 1 in 100 million.[27] Thus the behavior cannot be attributed to a few rogue facilities, but is instead systemic throughout the Mariner

[27] This statistical probability is based on the uniform distribution. In this case, since there are more than 15,000 SNFs, the top 1,000 facilities would be equivalent to the top 7% of facilities. Hence, we should only expect that 7% of Mariner's 19 facilities, or only 1 of its facilities, should be among the top 1,000 facilities, as opposed to 15 facilities.

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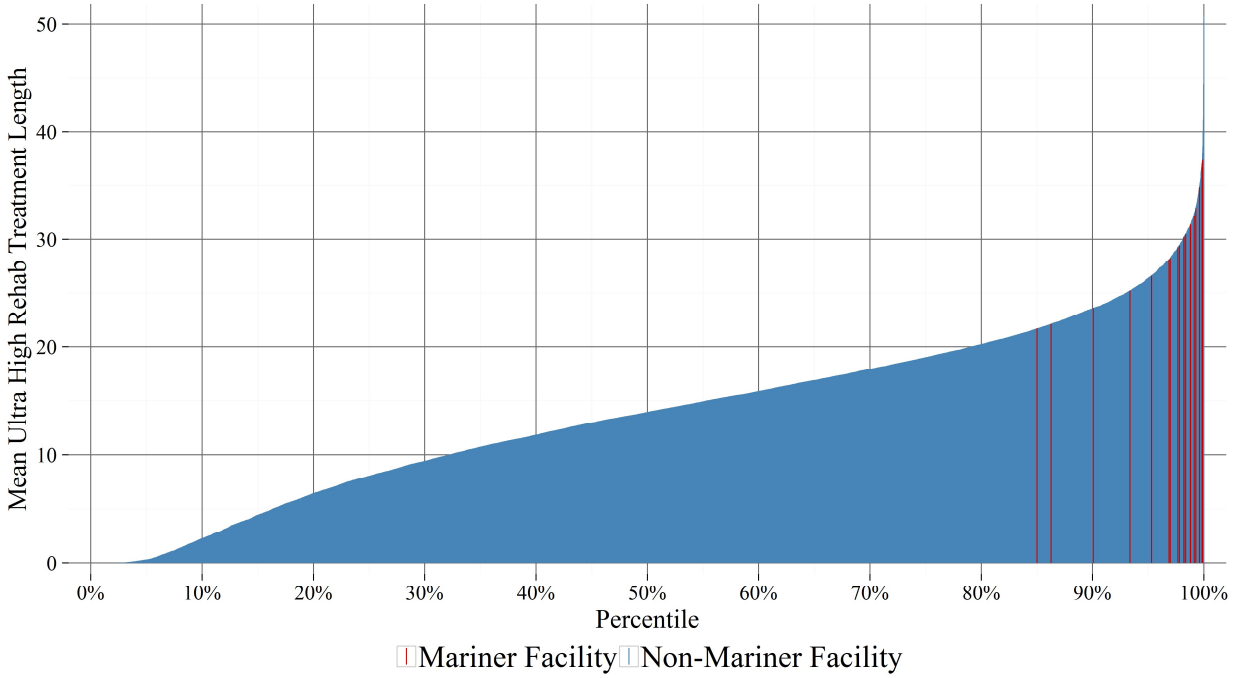
system.

Figure 3. Distribution of average Ultra High Rehab treatment length by SNF.
The following figure shows, for every SNF that treated at least 100 patients, the average number of Ultra High Rehab treatment days across all patients in that facility. Mariner facilities are highlighted in red. This graph comprises more than 15,000 SNFs.



76. At bottom, Mariner as a system treats patients with nearly double the days of Ultra High Rehab than other systems. The average Medicare patient at Mariner facilities receives 29.28 days of Ultra High Rehab, whereas the average Medicare patient at other facilities receives 14.87 days of Ultra High Rehab. As shown in Panel A of Figure 4, this difference is consistent across multiple years and is statistically significant as the probability that such a significant difference exists randomly is less than 1 in 100 million.

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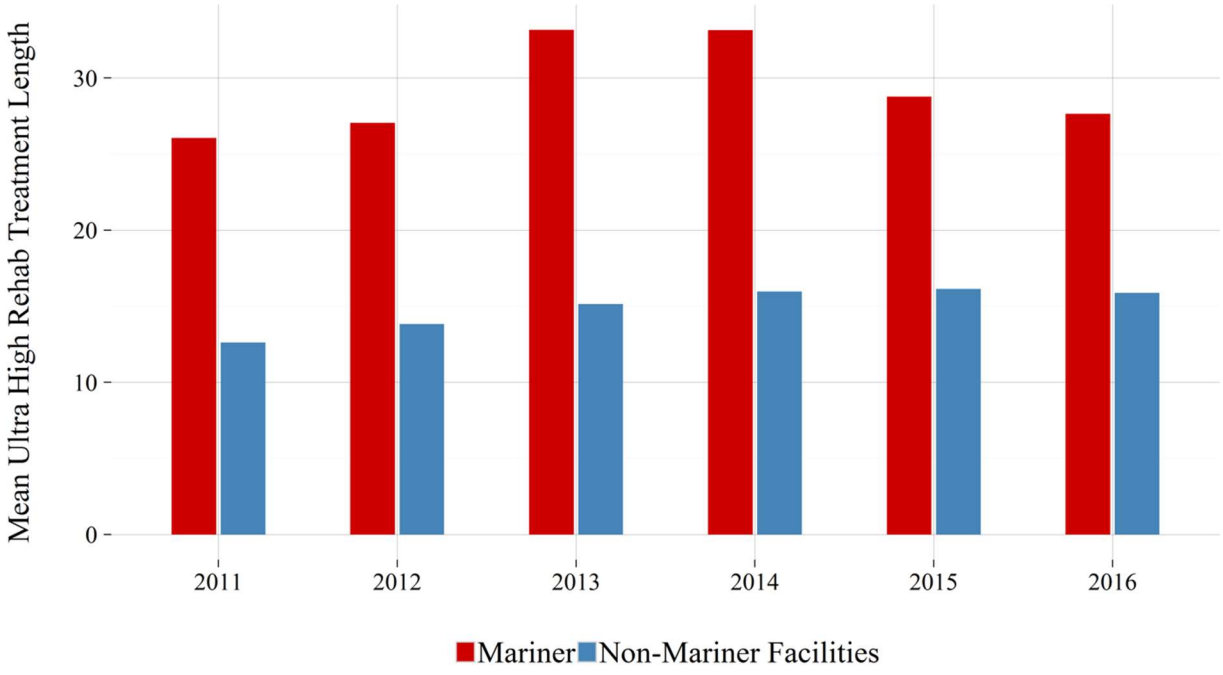
Figure 4. Ultra High Rehab Treatment at Mariner Versus Other Facilities.
This figure shows the average days of Ultra High Rehab at Mariner versus other facilities from year to year for both Mariner (red) and other facilities (blue), showing that patients get more Ultra High Rehab at Mariner. This is based on more than 18,000 patient admissions at Mariner facilities and more than 13 million patient admissions at other SNFs.



(c) Examples of Specific False Claims Submitted by Mariner

77. Across all of the 58 diagnosis groups, Relator has identified numerous specific false claims submitted by Mariner to Medicare. Each of these examples are claims in which Mariner billed for medically unreasonable and unnecessary rehab. As a reminder, to qualify for Ultra High Rehab, a patient must receive at least 12 hours of therapy a week, and the patient must also receive one type of therapy (physical, occupational, or speech pathology) for at least 5 days, and a second type of therapy for at least 3 days.[28] Relator has identified several claims in which Mariner provided patients with significant quantities of rehab up until the patient died.

[28] *See* Centers for Medicare & Medicaid Services, *MS Long-Term Resident Care Assessment Instrument 3.0 User's Manual, Version 1.14* (October 2016), available at https://goo.gl/AqwFcW.

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78. For example, [redacted].[29]

79. [redacted].[30]

80. [redacted].[31]

81. [redacted]

[29] Mariner submitted claims to Medicare for this patient's admission with the following claim numbers: [redacted]

[30] Mariner submitted claims to Medicare for this patient's admission with the following claim numbers: [redacted]

[31] Mariner submitted claims to Medicare for this patient's admission with the following claim numbers: [redacted].

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[redacted].[32]

82. [redacted][33]

83. To further demonstrate Mariner's billing of unreasonable and unnecessary rehab, the following table includes 50 additional examples of claims for SNF admissions submitted by Mariner with excessive Ultra High Rehab, along with the excess days of Ultra High Rehab provided by Mariner and the amount of additional revenue Mariner received as a result. An exhaustive list of false claims is appended to this complaint.

[32] Mariner submitted claims to Medicare for this patient's admission with the following claim numbers: [redacted].

[33] Mariner submitted claims to Medicare for this patient's admission with the following claim numbers: [redacted].

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Table 3. Ultra High Rehab False Claims Made by Mariner.

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
[redacted]								

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Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
[redacted]								

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Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

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Beneficiary ID	Claim IDs	SNF	Admission Date	Age/ Gender/ Race	Inpatient Principal Diagnosis	Days of Ultra High Rehab	Days of Excess Ultra High Rehab	False Claim Amount
[redacted]								

2. The Large Proportion of Patients Receiving Exactly 100 Days of Ultra High Rehab Demonstrates Mariner's Attempts to Maximize Medicare Reimbursements

(a) Mariner Treats an Abnormally High Amount of Patients with Ultra High Rehab up Until Medicare Coverage Expires at 100 Days

84. According to CMS, the Medicare benefit for patients being treated at a SNF runs out after 100 days of SNF services. At that point Medicare will no longer reimburse for skilled nursing services, and the patient must either pay out of pocket or would stop receiving skilled nursing services all together. Thus, a facility attempting to maximize revenue would treat its patients for as many days of Ultra

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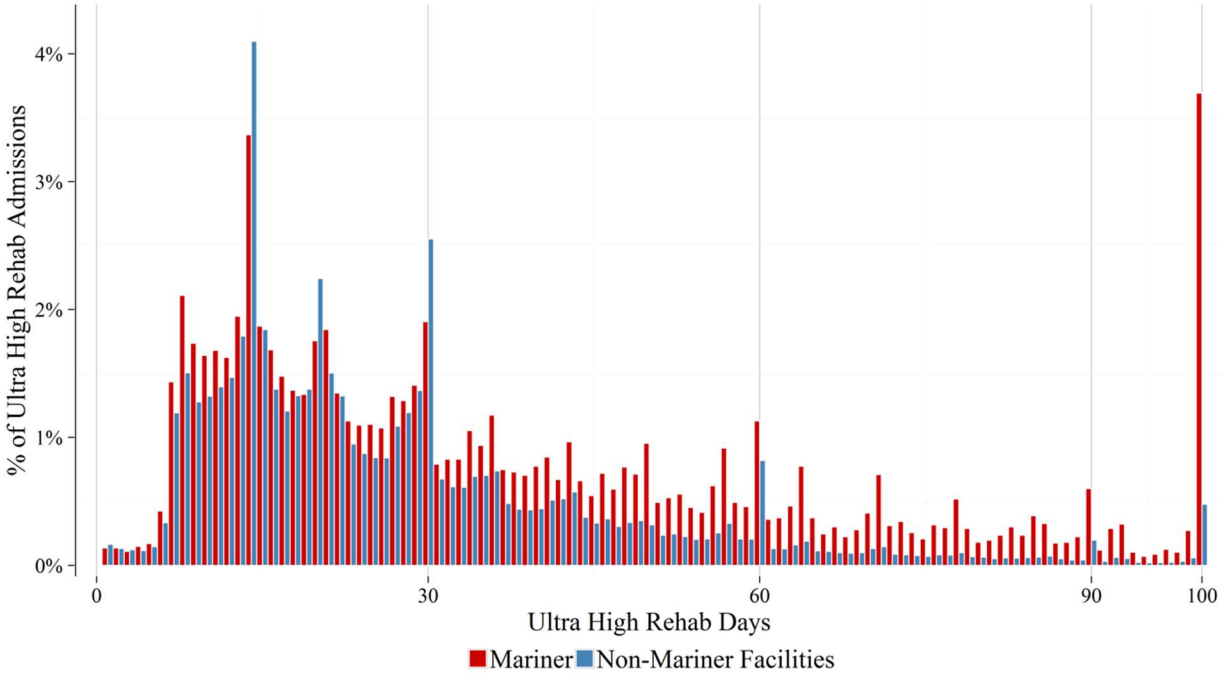
High Rehab as possible under the benefit period. Relator found that a significant number of patients at Mariner received exactly 100 days of Ultra High Rehab relative to other SNFs, as demonstrated in Figure 5, indicating that Mariner is seeking to maximize the level of Ultra High Rehab provided until the Medicare benefit expires.

85. Nationwide, only 0.48% of SNF patients receive exactly 100 days of Ultra High Rehab, while 3.69% of patients at Mariner receive exactly 100 days of Ultra High Rehab. Mariner has more than 7.72 times as many patients who receive exactly 100 days of Ultra High Rehab than other facilities where such a spike is unusual and uncommon. The probability that this difference is due to random chance is less than 1 in 100 million.

Figure 5. Histogram of Ultra High Rehab Treatment Length for Mariner and Non-Mariner Patients. The following figure plots, for each Ultra High Rehab treatment length between 1 and 100 days, the percentage of patient admissions where the patient received exactly that many days of Ultra High Rehab treatment. The red histogram displays patients treated at a Mariner SNF, and the blue histogram displays patients treated elsewhere. There were more than 13 million patient admissions in the data set, including more than 18,000 patient admissions at Mariner facilities.



(b) <u>The Spike in Patients Receiving Exactly 100 Days of Ultra</u>

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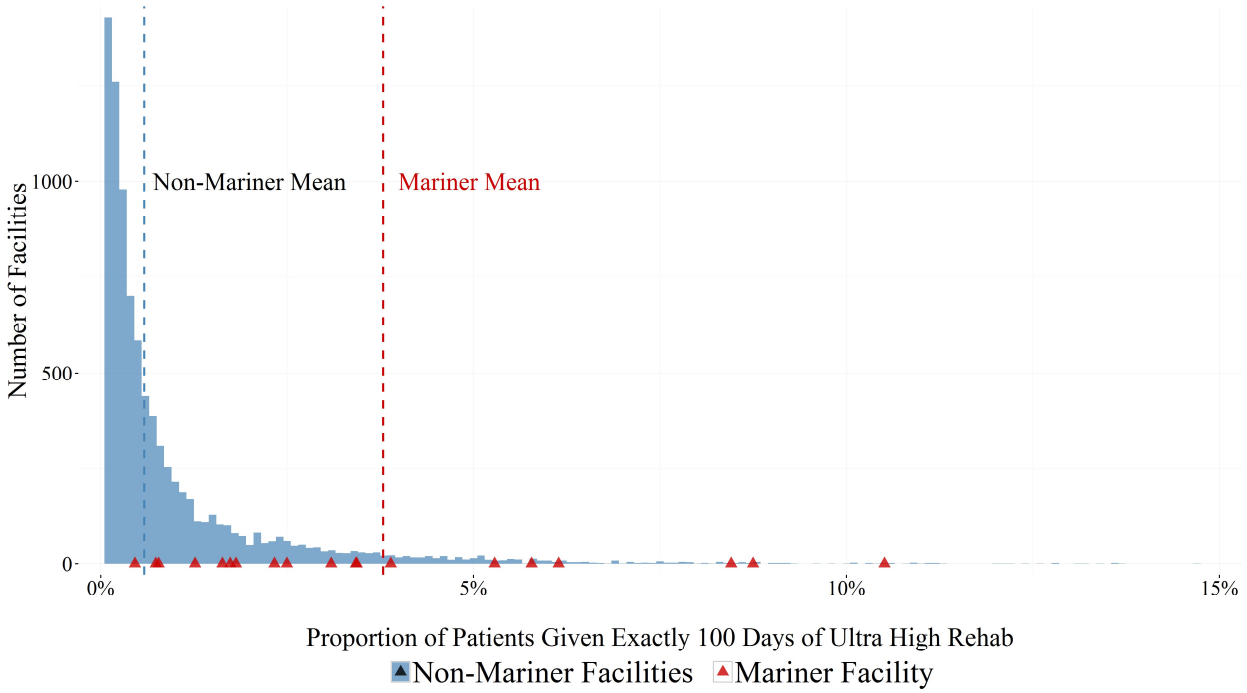
High Rehab is Consistent Across Mariner Facilities

86. The abnormally high amount of patients receiving Ultra High Rehab for 100 days is consistent across all Mariner facilities, and several Mariner facilities have an extremely high proportion of patients receiving exactly 100 days of Ultra High Rehab. Figure 6 shows how it is incredibly rare for an SNF to have more than 5% of its patients receiving exactly 100 days of Ultra High Rehab, occurring at only 1.62% of facilities nationwide. However, at 6 of 19 Mariner facilities (31.58%), more than 5% of patients receive exactly 100 days of Ultra High Rehab. Moreover, all but 1 Mariner SNF bills more than the nationwide average of patients as receiving exactly 100 days of Ultra High Rehab.

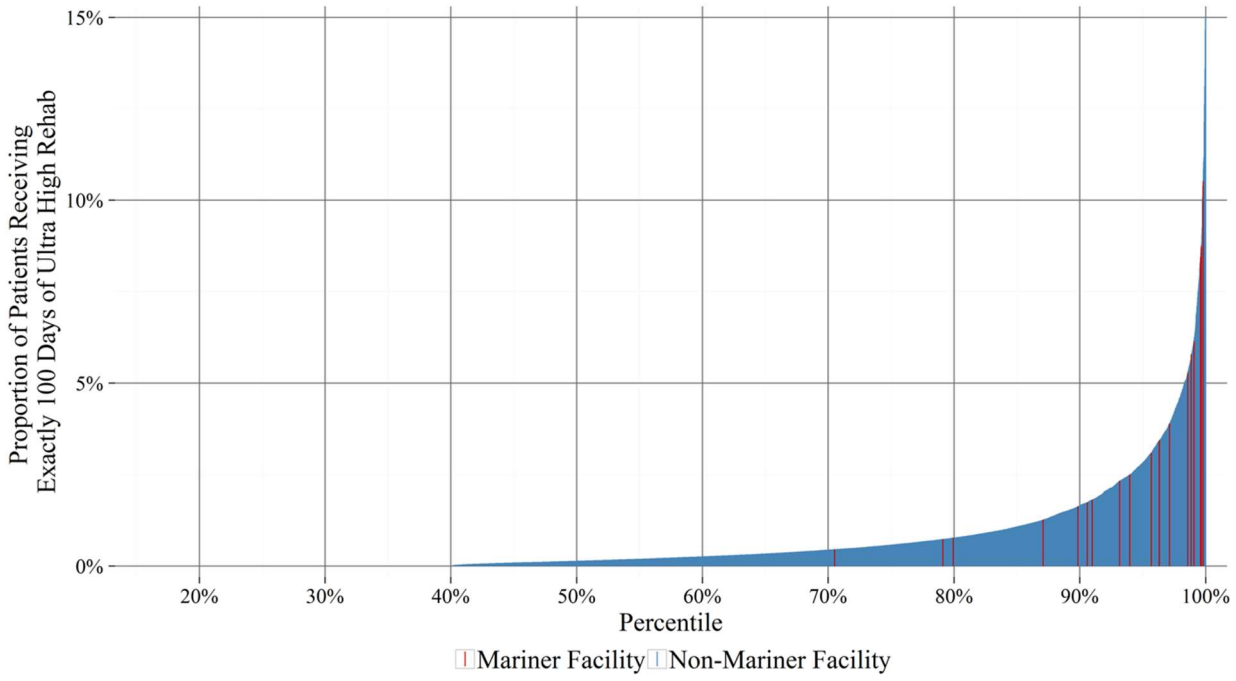
Figure 6. Histogram: Proportion of Patients Receiving exactly 100 days of Ultra High Rehab.
The following figure shows, for each proportion between 0% and 15%, the number of SNFs treating that proportion of patients with exactly 100 days of Ultra High Rehab. Only facilities that treated at least 100 patients from 2011 through 2016 are included here. The figure comprises more than 15,000 SNFs in the data set, including 19 Mariner facilities. Proportions for individual Mariner facilities are marked, as are the overall and Mariner averages. There are 4 non-Mariner SNFs with a proportion higher than 15% that are not shown on the following histogram.



87. Further, Figure 7 shows just how extreme of an outlier some individual Mariner facilities are in terms of the proportion of admissions receiving exactly 100 days of Ultra High Rehab. Mariner has 10 facilities in the top 5 percent of all

facilities when ranked by proportion of patients with exactly 100 days, including 6 in the top 2 percent. The probability of having 6 (out of 19) in the top 2 percent randomly is less than 1 in 720 thousand.

Figure 7. Distribution of the Proportion of Patients Receiving Exactly 100 Days of Ultra High Rehab. The following figure shows, for each SNF, the proportion of patients who receive exactly 100 days of Ultra High Rehab. Mariner facilities are in red and all other SNFs are in blue. The figure comprises more than 15,000 facilities with at least 100 patient admissions from 2011 through 2016, including 19 Mariner facilities.



88. The fact that so many patients receive the maximum number of days of Ultra High Rehab covered under Medicare rules indicates that Mariner is simply seeking to maximize reimbursements for as many days as possible, and the analysis demonstrates that Mariner is making rehab decisions in order to maximize profits rather than providing patients with rehab that is reasonable and necessary.

(c) <u>Mariner Also Maximized Revenue by Providing Ultra High Rehab to a High Proportion of Patients for 60 or More Days</u>

89. Just as it is striking that such a relatively large proportion of Mariner's patients are receiving Ultra High Rehab until the Medicare benefit expires at 100 days, Mariner's attempt to maximize revenue is also evidenced by the large number of patients who receive 60 or more days of Ultra High Rehab. This finding is further

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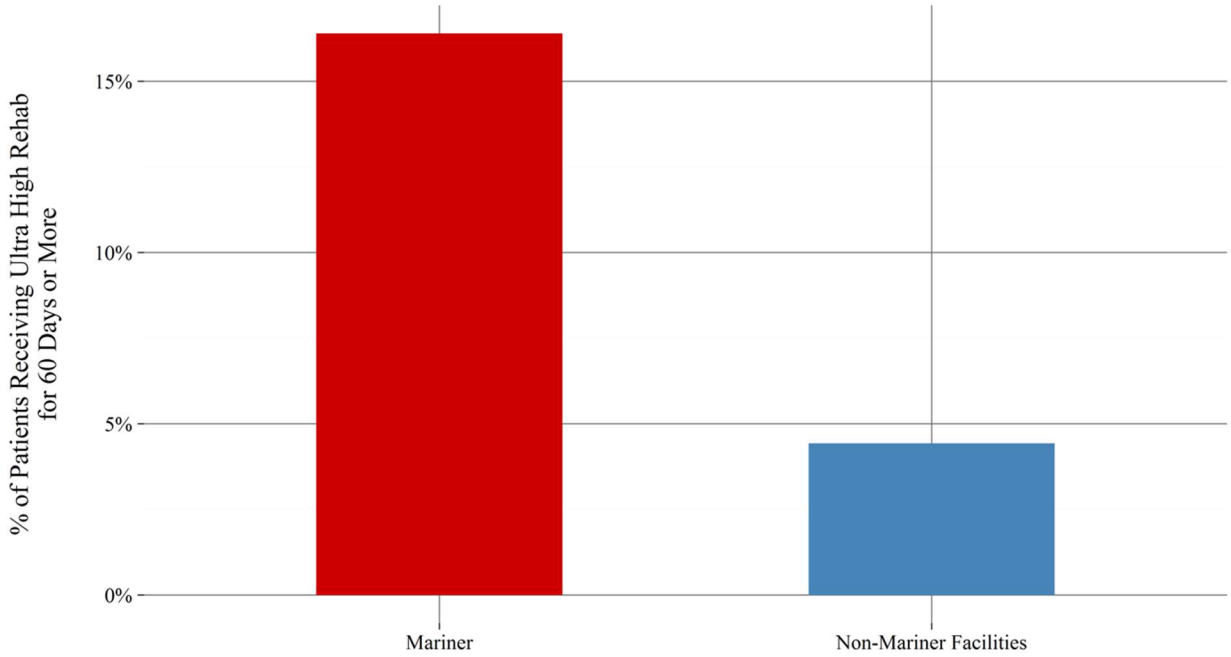
demonstrated by the relative scarcity of this occurrence at non-Mariner facilities, as shown in Figure 8 below. As seen in Panel A of Figure 8, 16.4% of Mariner patients receive 60 or more days of Ultra High Rehab, compared to only 4.43% of patients at non-Mariner facilities. Mariner has 3.70 times as many patients receiving 60 or more days of Ultra High Rehab than other SNFs. Panel B of Figure 8 shows the percent of patients receiving at least a given number of days of Ultra High Rehab across all claims at Mariner compared to non-Mariner SNFs. This figure also demonstrates Mariner's tendency to consistently provide Ultra High Rehab as many days as possible, as evidenced by the gap between the red line for Mariner and the blue line for other non-Mariner SNFs.

Figure 8. Distribution of When Patients Stop Receiving Ultra High Rehab.
Panel A compares the proportion of patients receiving at least 60 days of Ultra High Rehab at Mariner and non-Mariner SNFs. Panel B shows the percentage of all patients receiving the given number of days of Ultra High Rehab identified on the x-axis, and displays a big drop-off after 60 days, as well as smaller drop-offs at 30 and 90 days.

Panel A: Proportion of Patients Receiving Ultra High Rehab for at Least 60 Days



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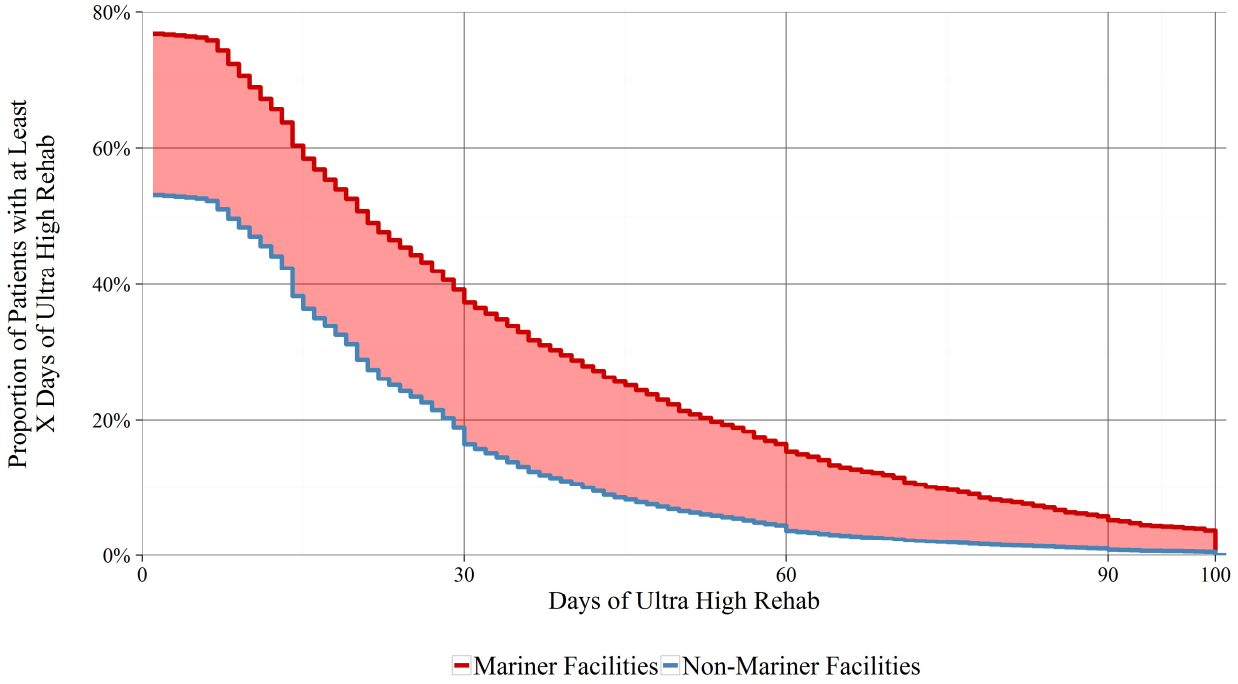
Panel B: Proportion of Patients Treated with Ultra High Rehab at Least a Given Number of Days



3. Mismatch Between Mariner's *Reported* Level of Ultra High Rehab Provided and Mariner's *Actual* Level of Ultra High Rehab Provided

90. Relator also considered the extent to which Mariner's therapy expenses are in line with its excessive revenue from therapy. Relator analyzed therapy revenues and expenses using the long-term care facilities annual utilization data made available in California.[34] This data provides the total revenue from therapy and total expenses from therapy for each SNF in California.[35] Relator normalized the data by patient days so it would be consistent across facilities regardless of facility size. Relator then compared the reported revenue from therapy to the reported

[34] California Office of Statewide Health Planning and Development, *Long-Term Care Annual Utilization Data* (2011–2016), *available at* https://goo.gl/MQPKD3.

[35] Relator included physical therapy, occupational therapy, and speech pathology in the therapy revenue and expenses, consistent with the SNF reimbursement requirements.

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expenses from therapy.

91. As Figure 9 shows, Mariner's reported revenue from therapy per patient day relative to its reported expenses from therapy per patient day is significantly higher than other facilities. The x-axis measures the therapy expenses per patient per day. Mariner facilities spend between $17 and $43 dollar per day per patient. This is less than many other facilities. Mariner facilities' therapy revenue per patient day ranges between $62 and $155 dollars per patient day, which is higher than many other facilities. Thus, while other facilities in California on average report 2.5 times more therapy revenue than expenses, Mariner facilities on average report 3.77 times more therapy revenue than therapy expenses. The fitted trend lines in Figure 9 highlight the difference between Mariner facilities and other facilities. First, Mariner's red line is higher than the blue line of other facilities in California, meaning that for the same amount of therapy expense recorded, Mariner facilities charge a much higher revenue. Second, Mariner's line has a steeper slope which means that the difference in revenue charged per expenses per patient day recorded increases the higher the expense increases.

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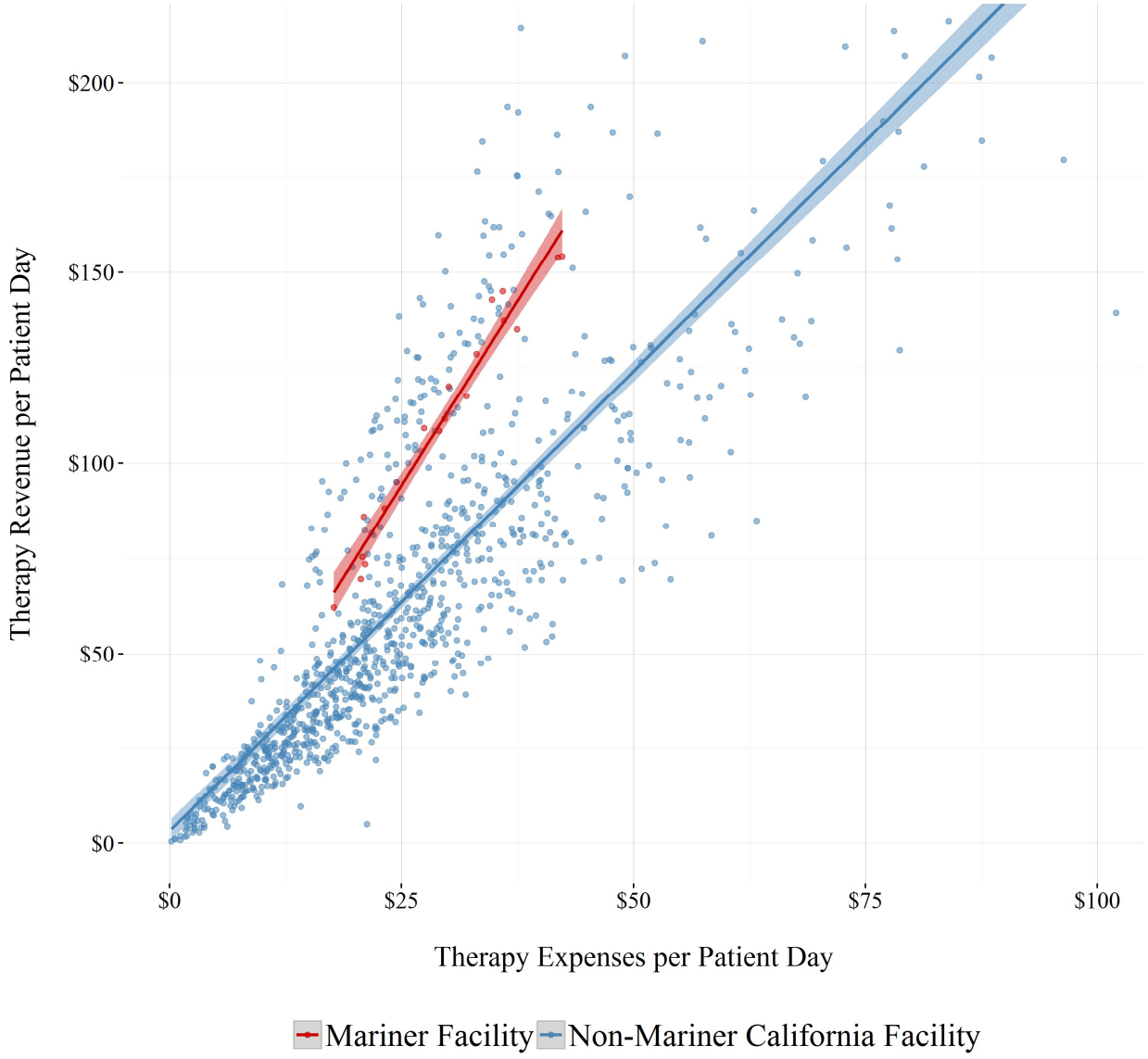
Figure 9. Revenue and Expenses from Therapy for Mariner Facilities and All Other Facilities.
This figure compares the revenue and expenses from therapy that Californian SNFs reported from 2011 through 2016. Mariner facilities are in red, and other facilities are in blue. A trend line has also been added. This shows that Mariner has significantly higher revenue from therapy per patient day relative to its expenses, when compared to other SNFs in California.



92. As shown in Figure 10, 19 of Mariner's 19 facilities (100%) have therapy revenue per patient day higher than the median (i.e. the 50th percentile), while only 14 of Mariner's facilities (73.7%) are above the median in terms of therapy expenses per patient day. This graph demonstrates how abnormally high most of Mariner's facilities are in terms of therapy revenue per patient day, while being closer to the average when considering reported therapy expenses per patient

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day. This pattern is consistent across most of Mariner's facilities.

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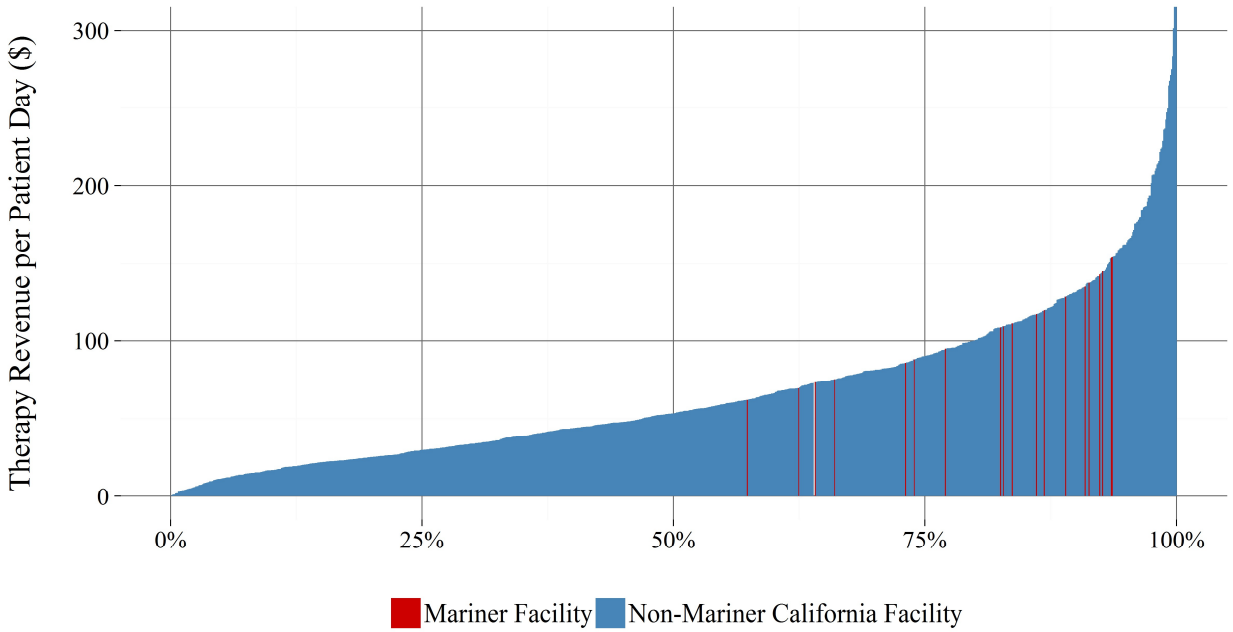
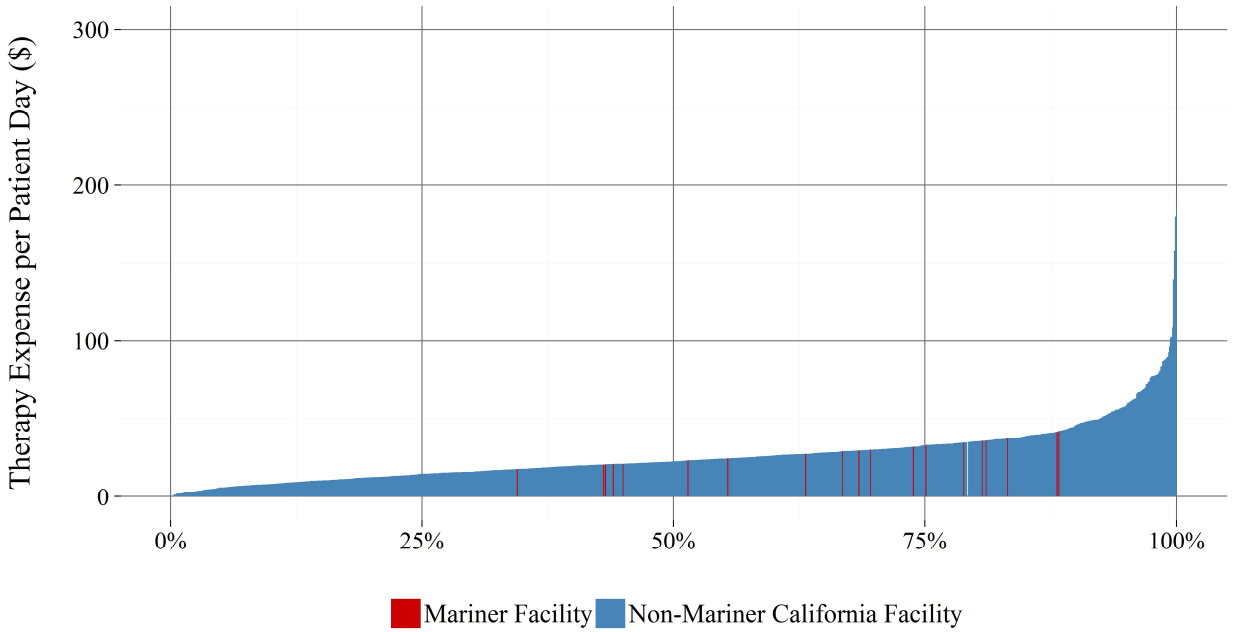
Figure 10. Mariner's Reported Therapy Revenue and Expenses Versus Other Facilities.
Relator analyzed the utilization data from the California Office of Statewide Health Planning and Development from 2011 through 2016. Panel A shows the therapy revenue per patient day for Mariner facilities in red and for all other facilities in blue, while panel B shows the therapy expenses per patient day for Mariner and for all other facilities in red and blue respectively. The facilities are ordered from the lowest amount to the highest amount. Mariner's facilities are concentrated to the right end of the distribution for revenue, but are more in the middle of the pack for expenses.

Panel A. Therapy Revenue per Patient Day



Panel B. Therapy Expenses per Patient Day



93. That Mariner is spending similar amounts on therapy but billing for

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much more therapy relative to other SNFs, evidences that Mariner is not providing the therapy it claims to be providing when billing Medicare, yet is still obtaining significant extra revenue from therapy.

4. Alternative Hypotheses for Excessive Ultra High Rehab Do Not Stand and Confirm that Mariner Fraudulently Billed Medicare

94. To determine responsibility for the excessive Ultra High Rehab at Mariner, Relator analyzed whether the statistically aberrant amounts of Ultra High Rehab could be attributed to a variety of external factors. First, Relator ran a fixed effect linear regression model to control for a variety of possible explanations for Ultra High Rehab, including patient health, patient characteristics and county demographic data. Second, Relator analyzed Mariner's acquisition of an SNF to determine whether there was a significant increase in the amount of Rehab provided. Third, Relator considered whether a patient's diagnosis at the SNF, as opposed to their prior inpatient hospital diagnosis, could explain the Ultra High Rehab. Fourth, Relator considered whether the patient's overseeing physician is responsible for the excessive Ultra High Rehab reimbursements at Mariner. Fifth, Relator considered whether the excessive Ultra High Rehab could be explained by the referring hospital or by the attending physician during the patient's inpatient hospital stay. Sixth, Relator analyzed a subset of patients who were admitted to both Mariner and another SNF. As discussed further below, these analyses prove that the excessive Ultra High Rehab can be directly attributed to Mariner's fraudulent activity as opposed to external factors, indicating that the fraud was known by the system and was intentional.

(a) Patient Characteristics and Demographics do not Explain the Excessive Ultra High Rehab at Mariner

95. A fixed effect linear regression model allowed Relator to control for the possibility that there are certain patient characteristics which might suggest a patient needs extra rehab. Relator's regression isolated the amount of Ultra High Rehab

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beyond such characteristics and caused only by Mariner. Using this methodology, Relator controlled for patient characteristics such as age, gender, and race. Relator also used county-level demographic data, such as unemployment rate, percent of population without a high school diploma, log median income, and the rural-urban continuum codes from the Department of Agriculture as control variables.[36] These county demographic variables provided Relator with a proxy for the income levels, education levels, and access to care available to the patients. Lastly, Relator controlled for the principal diagnosis by grouping together principal diagnosis codes in a manner consistent with their statistical analysis, as well as any inpatient secondary diagnoses, whether the patient had surgery, and the patient's prior length of stay at the inpatient hospital. These enabled Relator to estimate the severity of the patient's condition and need for receiving therapy. Equation 1 shows the fixed effect linear regression model used by Relator.

Equation 1. Relator's Fixed Effect Linear Regression Model.
The following equation presents the fixed effect linear regression model used by Relator. The variable of interest is β_1, which is the coefficient for Mariner. Panel A provides the equation, and Panel B explains the variables included in the model. The *i* refers to a specific admission and *j* refers to the potential options for the categorical variables.

Panel A – Regression Model

$$\begin{aligned} \boldsymbol{Ult\_Rehab\_Los_i} &= \boldsymbol{\beta_0} + \boldsymbol{\beta_1}.\boldsymbol{Mariner_i} + \sum_{j=2}^{58} \boldsymbol{\beta_{2j}}.\boldsymbol{Inp\_Pri\_Diag_{ij}} \times \boldsymbol{Last\_Inp\_Los_i} + \sum_{j=2}^{6} \boldsymbol{\beta_{3j}}.\boldsymbol{Age_{ij}} \\ &+ \boldsymbol{\beta_4}.\boldsymbol{Male_i} + \boldsymbol{\beta_5}.\boldsymbol{Race_i} + \sum_{j=2}^{58} \boldsymbol{\beta_{6j}}.\boldsymbol{Inp\_Pri\_Diag_{ij}} \times \boldsymbol{Last\_Inp\_Surg_i} + \sum_{j=2}^{9} \boldsymbol{\beta_{7j}}.\boldsymbol{RUCC_{ij}} \\ &+ \boldsymbol{\beta_8}.\boldsymbol{Pov\_Rate_i} + \boldsymbol{\beta_9}.\boldsymbol{Log\_Med\_Inc_i} + \boldsymbol{\beta_{10}}.\boldsymbol{Unemp\_Rate_i} + \boldsymbol{\beta_{11}}.\boldsymbol{No\_HS\_Rate_i} \\ &+ \sum_{j=2}^{589} \boldsymbol{\beta_{12j}}.\boldsymbol{Inp\_Sec\_Diag_{ij}} + \sum_{j=2}^{4} \boldsymbol{\beta_{13j}}.\boldsymbol{Season_{ij}} + \boldsymbol{\varepsilon_i} \end{aligned}$$

Panel B – Explanation of Variables

Variable	Description
$\boldsymbol{Ult\_Rehab\_Los_i}$	Days of Ultra High Rehab treatments for patient *i*
$\boldsymbol{Mariner_i}$	Whether patient *i* was treated at Mariner
$\boldsymbol{Inp\_Pri\_Diag_{ij}}$	Last inpatient principal diagnosis group dummy variables for patient *i*
$\boldsymbol{Last\_Inp\_Los_i}$	Last inpatient length of stay at hospital for patient *i*

[36] The Rural-Urban Continuum Codes measure whether each county is in a metro or non-metro area, and reflect the overall size of the metropolitan area.

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$Last\_Inp\_Surg_i$	Whether the last inpatient claim was assigned to a surgical DRG
$Inp\_Sec\_Diag_{ij}$	Last inpatient secondary diagnosis ccs_1 category dummy variables for patient *i*
$Season_{ij}$	Season control variable for the SNF admission (Winter, Spring, Summer, Fall)
Age_{ij}	Patient's age on the admission.
$RUCC_{ij}$	Patient's rural urban continuum code based on the county.
$Male_i$	Whether patient *i* was a male.
Pov_Rate_i	County poverty rate in 2014.
$Unemp\_Rate_i$	County unemployment rate in 2014
$Log\_Med\_Inc_i$	County log median income in 2014
$No\_HS\_Rate_i$	County percentage of individuals without a high school degree in 2010
ε_i	Error term

96. By controlling for these characteristics, the regression model allowed Relator to isolate the impact that being treated at Mariner would have on a patient's expected days of Ultra High Rehab. For example, given two patients with the same age and gender, from the same county, with the same principal and secondary diagnoses from their prior inpatient stay, same surgery status, and same length of stay, the Mariner patient would on average receive 12.49 more days of Ultra High Rehab than the patient at a non-Mariner facility.

97. Table 4 shows the results of the fixed effect linear regression, and after controlling for other factors, it shows that the Mariner coefficient for days of Ultra High Rehab is 12.49. This means that after considering the characteristics included in Equation 1, patients at Mariner can be expected to receive an extra 12.49 days of Ultra High Rehab beyond what would be given at other facilities. Given the baseline average days of Ultra High Rehab at other facilities is 15.11 days, Mariner's average days of Ultra High Rehab is 182.66% that of other SNFs, even after controlling for basic patient and demographic characteristics. This result is highly statistically significant with the probability that this observed difference is due to random chance being less than 1 in 100 million. The regressions indicate that Ultra High Rehab rates at Mariner are extremely outside of the norms of what is acceptable and reasonable in industry for patients with similar characteristics.

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Table 4. Results of Fixed Effect Linear Regression Model

Relator used a linear regression to analyze approximately 13 million admissions at Mariner and other SNFs. The results are presented in the following table. The coefficient is listed first and the p-value is in parenthesis, which represents the statistical significance of the coefficient. A lower p-value means the result is more statistically significant. Coefficients were not included for categorical variables and instead are labeled with a "Yes" to indicate the variable was controlled for in the regression. The Mariner coefficient is added to the rate at other facilities to get the expected Mariner days of Ultra High Rehab after including controls.

	Regression Coefficients *(See description in table header)*
Poverty Rate	-0.0303 (<0.0001)
Unemployment Rate	0.1976 (<0.0001)
Log Median Income	0.0888 (0.0639)
No High School Diploma Rate	0.2046 (<0.0001)
Season Control Variables	Yes
Age Control Variables	Yes
Sex Control Variables	Yes
Race Control Variables	Yes
Inpatient Length of Stay × Inpatient Principal Diagnosis Category	Yes
Inpatient Surgical DRG × Inpatient Principal Diagnosis Category	Yes
Inpatient Secondary Diagnosis Categories	Yes
RUCC Control	Yes
Mariner Coefficient for Unexplained Ultra High Rehab	12.49 (<0.0001)
Other Facilities Average	15.11
Mariner Calculated Effect	**27.6**
Mariner Relative Effect	**182.66%**

98. Another regression method to estimate Mariner's effect on Ultra High Rehab is to estimate the regression without the controls for skilled nursing chain and create an estimate of the expected days of Ultra High Rehab for each individual claim. For each skilled nursing chain, the average difference between the predicted days of Ultra High Rehab from the regression and the actual days of Ultra High Rehab billed on the claim is calculated, which is referred to as a residual. The difference between these two values represents the unexplained Ultra High Rehab that is caused by each skilled nursing chain. Figure 11 shows the average days of unexplained Ultra High Rehab for each skilled nursing chain, with Mariner plotted

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in red. Mariner's average unexplained Ultra High Rehab by this measure is 12.41 days, making it the 2nd highest among all skilled nursing chains with at least 5,000 claims.

Figure 11. Average Unexplained Ultra High Rehab for SNF Chains.
The following figure plots the results of the regression from Equation 1, but run without the Mariner fixed effect variable. All other variables included were the same. The regression was run based on 318 SNF chains with at least 5,000 patient admissions from 2011 through 2016Q3. The small vertical lines off of the point estimates represent the confidence interval for the systems' unexplained Ultra High Rehab. Because chains with at least 5,000 admissions were included, the large number of claims result in small confidence intervals.

99. Relator also performed the analysis at the facility level to demonstrate that the excessive Ultra High Rehab is taking place across the majority of Mariner's SNFs, as opposed to a few rogue facilities. Relator re-estimated the regression described in Equation 1, except instead of one fixed effect control variable for Mariner, individual fixed effect variables were included for each of Mariner's facilities. Figure 12 plots the results of that regression for each individual Mariner facility. As shown in the graph, the amount of extra Ultra High Rehab at each individual facility ranges from 3.5 extra days of Ultra High Rehab at Grancare Palm Springs to 21.32 extra days at Skyline.

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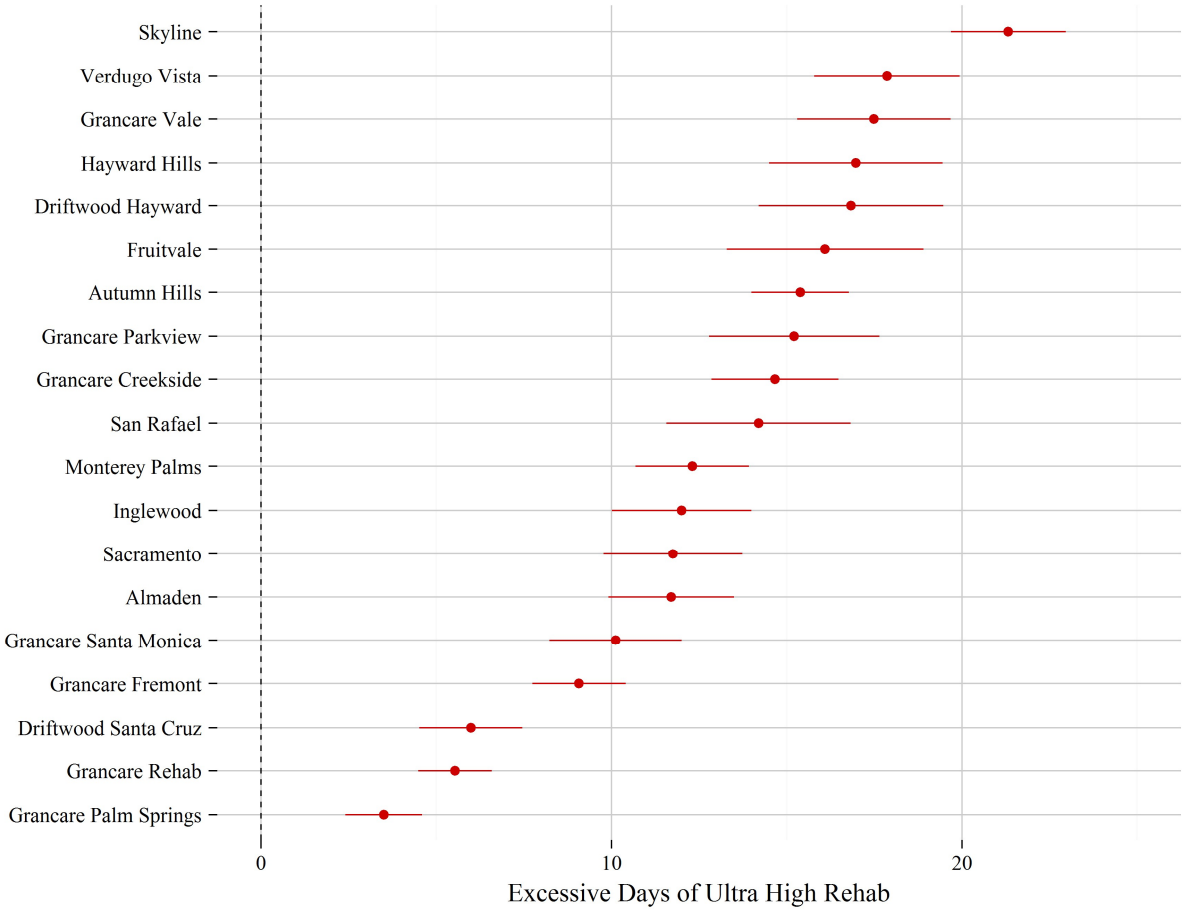
Figure 12. Excessive Days of Ultra High Rehab at Individual Mariner Facilities.
The following figure displays the estimated regression coefficients and 95 percent confidence intervals for 19 Mariner SNFs. The coefficient represents the amount of Ultra High Rehab attributed to the individual facilities after controlling for other factors. A coefficient of zero suggests the facility is not engaging in any unnecessary or excessive Ultra High Rehab.



100. As an additional analysis at the facility level, Relator used the regression from Equation 1 but without the Mariner fixed effect variable, and calculated the residual, or unexplained Ultra High Rehab for each facility. Figure 13 plots the average unexplained Ultra High Rehab for each facility, and, when compared to other facilities, it is apparent that Mariner's distribution is skewed significantly to the right of the chart. This demonstrates that all of the Mariner facilities have significant amounts of unexplained Ultra High Rehab.

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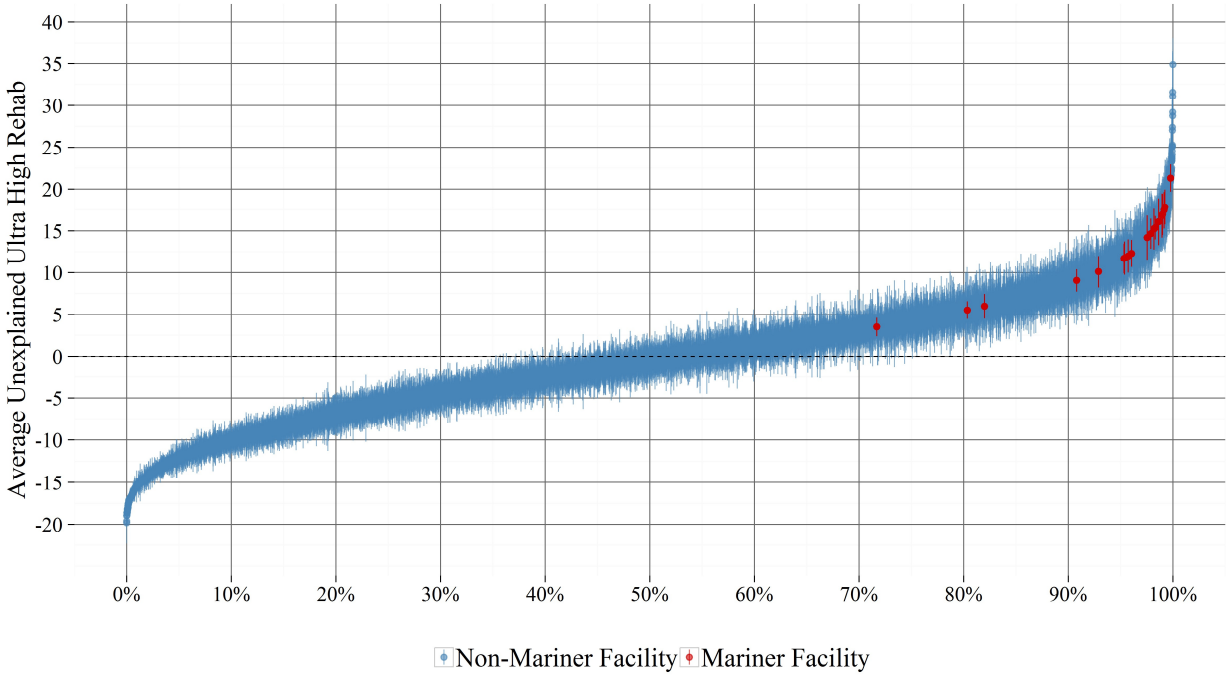
Figure 13. All SNFs, Ranked by Their Average Residuals.
The following figure shows the average residuals from our regression analysis across more than 14,000 SNFs with at least 100 patient admissions. Higher residuals suggest higher amounts of unexplained Ultra High Rehab. Mariner facilities are highlighted in red, and other facilities are in blue.



101. Taken together, Relator's regression analyses demonstrate that the excessive Ultra High Rehab at Mariner facilities cannot be explained due to unique patient demographic or health characteristics. Additionally, this behavior is consistent across nearly all of Mariner's facilities, indicating it required a coordinated effort.

(b) <u>Mariner's Acquisition of a New Facility Demonstrates that Mariner Management Causes the Excessive Ultra High Rehab</u>

102. Mariner's fraudulent conduct can also be proven using causal methods, which are often used in economics, finance and other applications to assess the extent to which an effect can be identified to be caused, and not merely associated with, other explanatory variables.[37] A common causal econometric methodology is

[37] "The notion of ceteris paribus—that is, holding all other (relevant) factors fixed—

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the use of discontinuity analysis which can be applied when there is a sudden change in the effect that one wishes to examine.[38] A discontinuity analysis is able to determine whether there is a statistically significant sudden change in the level of therapy due to an additional explanatory variable, such as a change in ownership or management of an SNF. One common causal econometric methodology that can be used to prove Mariner's fraudulent conduct is known as a Comparative Interrupted Time Series ("**CITS**"), which can be applied to examine a sudden change in an effect in order to infer a causal relationship.[39] In this case, Mariner's causal influence on the amount of Ultra High Rehab provided by an SNF can be estimated by comparing the SNF's average days of Ultra High Rehab before it was acquired by Mariner to its amount of Ultra High Rehab after it was acquired by Mariner.

103. Mariner took over the ownership and operational control of Fruitvale on January 1, 2014.[40] The timing of the acquisition presented Relator with an opportunity to use the discontinuity associated with the sudden shift of operational control at Fruitvale to assess the impact Mariner has on the average amount of Ultra High Rehab provided to patients. Relator examined the average days of Ultra High Rehab at Fruitvale before and after its respective affiliation with Mariner. Relator

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is at the crux of establishing a causal relationship." Jeffrey Wooldrige, *Econometric Analysis of Cross Section and Panel Data* 3 (2d ed. 2010).

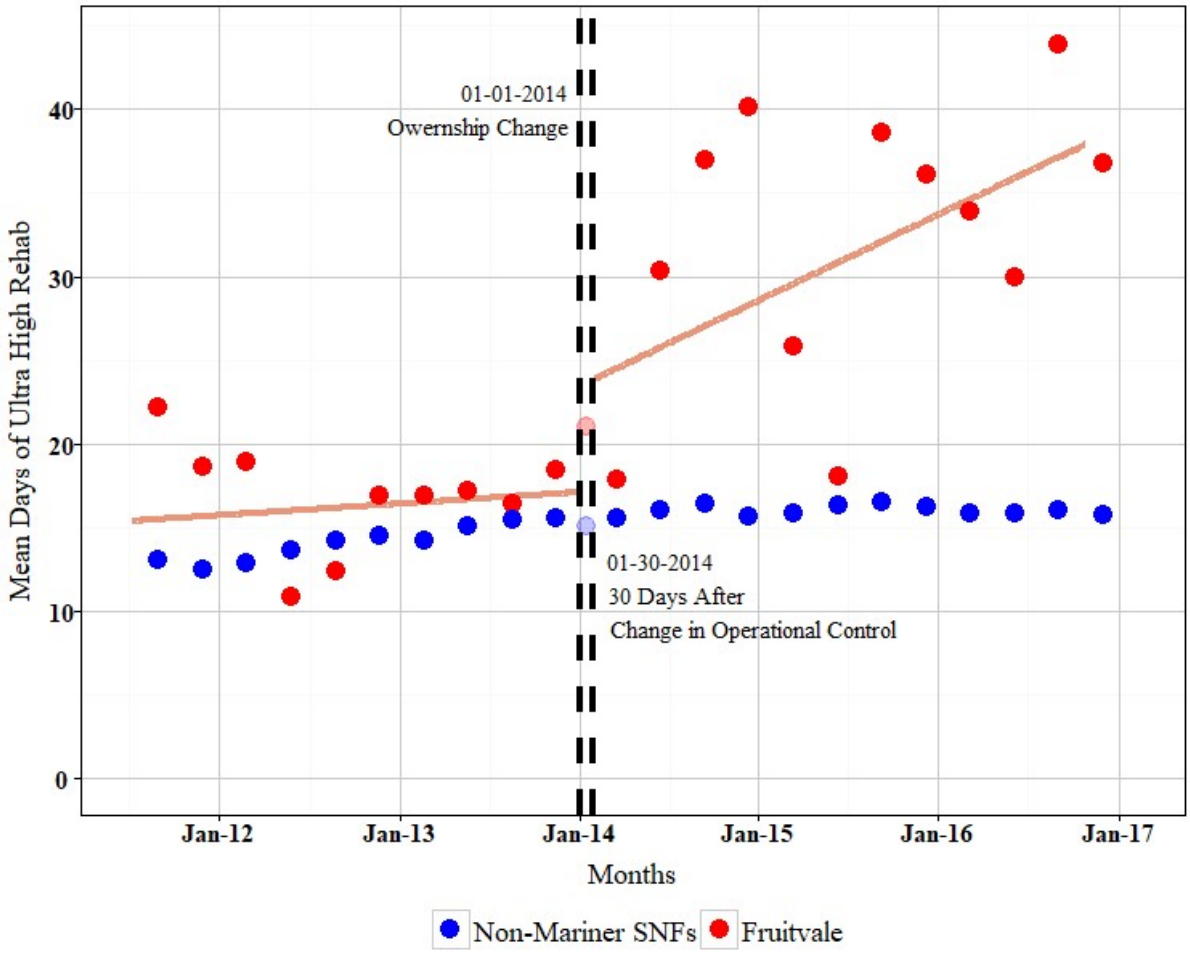
[38] *See* J.D. Angrist and J.S. Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion* 251–53 (2009).

[39] "CITS… produce[s] causally valid inferences about program impacts." Marie-Andree Somers, Pei Zhu, Robin Tepper Jacob, Howard Bloom, *The Validity and Precision of the Comparative Interrupted Time Series Design and the Difference-in-Difference Design in Educational Evaluation*, MDRC Working Paper on Research Methodology (Sept. 2013).

[40] Relator determined ownership and acquisitions dates from the CMS Skilled Nursing Facility Ownership Data, with a processing date of August 1, 2017, available at https://goo.gl/dLqq8s.

added an additional 30-day gap after the operational control went into effect to account for the possibility that it might take time to implement new practices to maximize revenue. As shown in Figure 14, prior to the acquisition by Mariner, Fruitvale's average days of Ultra High Rehab was consistent with the industry average. However, after Mariner assumes operational control, Fruitvale's rate of Ultra High Rehab increases suddenly and is consistently higher than the nation-wide average at other non-Mariner SNFs.

Figure 14. CITS for Mariner's Acquisition of Fruitvale.
This figure shows the average days of Ultra High Rehab over time at Fruitvale (red) and at other non-Mariner SNFs (blue). Each dot represents a 90-day bucket with claims allocated based on the median date of the claim. The red line shows the results of the CITS analysis for Mariner's acquisition of Fruitvale. All claims from the signing of the purchase agreement to 30-days after its approval were not included in the CITS, but were included on the graph for completeness and are greyed out. The jump from the first line to the next demonstrates the impact of the management change on Fruitvale's Ultra High Rehab.



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104. The red line in Figure 14 also shows the results of the CITS analysis. The CITS demonstrates that there is a significant jump in the amount of Ultra High Rehab after the acquisition by Mariner. The graph is based on the CITS formula shown in Equation 2 below, which allowed Relator to compare differences in Ultra High Rehab for patients treated at Fruitvale before and after the acquisition change relative to the behavior of other facilities.[41] The advantage of this approach is that it allowed Relator to identify and quantify not only the short-term effect of management change on the immediate increase in Ultra High Rehab, but also the long-term effect in the post-acquisition trend of Ultra High Rehab. Relator's CITS analysis shows the average days of Ultra High Rehab at Fruitvale increased on average 6.77 days after the acquisition. The probability this jump is due to random chance is less than 1 in 100 million, thus validating that change in operational control caused an increase in the Ultra High Rehab.

105. Relator also ran a CITS analysis while controlling for a variety of patient characteristics, the equation of which is located in Equation 2 below, including the additional control variables. This allowed Relator to control for patient characteristics such as age, race, and gender, claim characteristics such as the principal and secondary diagnoses, and regional characteristics such as income and unemployment levels in the patient's home county. Such an analysis allowed the Relator to identify the amount of the increase in Ultra High Rehab that can be attributed to the Mariner acquisition, while controlling for possible changes in the composition of patients before and after the acquisition. As such, the variable of interest represents the incremental amount of Ultra High Rehab that can be attributed to the management change beyond what could be explained by the other variables. After controlling for the other variables, the effect of the acquisition was

[41] Because the graph only includes two dimensions, the CITS for the graph does not include the patient and demographic controls identified in Equation 1.

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estimated to be 6.32 days, meaning the new management agreement caused an average increase of 6.32 days of Ultra High Rehab. The probability this difference is due to random chance is less than 1 in 100 million.

106. Relator's detailed methodology to attribute the change in the average Ultra High Rehab to Mariner's acquisition of the facilities is based on the CITS formula in Equation 2. The detailed patient level controls are discussed in more detail in Equation 1 in on page 54. The contemporaneous effect of the management change on the days of Ultra High Rehab at Fruitvale is estimated through the β_{21} coefficient, which represents the extra Ultra High Rehab found in Fruitvale (i.e. the jump in the days of Ultra High Rehab) after adjusting for the pre- and post-acquisition trends at non-Mariner SNFs, and also after adjusting for control variables. Although not shown in the figures above, there was no jump in the rate of Ultra High Rehab at non-Mariner SNFs before and after the acquisition periods.

Equation 2. Relator's Comparative Interrupted Time Series (CITS) Model.
The following equations present the CITS model used by Relator. The aggregate short-run and long-run effect of management change on the days of Ultra High Rehab at Fruitvale is estimated through the variable β_{21}. This represents the jump in the days of Ultra High Rehab due to the Mariner acquisition while assuming that Fruitvale's average days of Ultra High Rehab would continue at the same rate as other SNFs.

Panel A – CITS Model

$$Y_i = \beta_{00} + \beta_{01}T_i + \beta_{10}time_{1_i} + \beta_{11}time_{1_i}T_i + \beta_{20}rd_{int_i} + \beta_{21}rd_{int_i}T_i + \beta_{30}time_{2_i} + \beta_{31}time_{2_i}T_i + \boldsymbol{\beta C_i} + \varepsilon_i$$

Panel B – Explanation of Variables

Variable	Description
$\boldsymbol{T_i}$	Whether patient *i* was treated at the SNF of interest (Fruitvale)
$\boldsymbol{time_{1i}}$	Difference in days between the mid-point of the patient's admission and the gap for the acquisition time period.
$\boldsymbol{time_{2i}}$	If the patient was treated after the acquisition, the difference in days between the mid-point of the patient's admission and 30 days after the approval of the acquisition, zero if treated before the acquisition.
$\boldsymbol{rd_{inti}}$	Whether the patient was treated before or after the acquisition
$\boldsymbol{\beta C_i}$	Control variables, including the controls identified in Equation 1

(c) Excessive Ultra High Rehab Cannot be Explained by Patients Diagnosis at the SNF

107. Relator also analyzed whether something unique about the diagnosis

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assigned to the patients at Mariner could explain why Mariner's patients receive excessive Ultra High Rehab. Relator's previous analyses used patients' diagnosis assigned at their prior inpatient hospital stay as an independent and objective determination of their medical need for therapy; this additional test for robustness further confirms Mariner's fraudulently excessive Ultra High Rehab.

108. As shown in Figure 15, Mariner has higher rates of Ultra High Rehab across all principal diagnosis code groups assigned at the SNFs. Specifically, in Panel A, each dot represents a principal diagnosis and the red dots to the right of the 45-degree line show that Mariner provides more days of Ultra High Rehab than other facilities. For example, for patients diagnosed with Fracture of Neck of Femur (hip), Mariner on average provides 38.83 days of Ultra High Rehab, whereas other facilities on average provide 21.26 days of Ultra High Rehab. Similarly, the distribution of average days of Ultra High Rehab by principal diagnosis code group, as shown in Panel B, continues to illustrate that Mariner consistently bills more days of Ultra High Rehab. If the amount of Ultra High Rehab provided by Mariner was comparable to other facilities across different SNF diagnosis codes, the dots would be clustered close to the 45-degree line and the distributions in Panel B would be similar.

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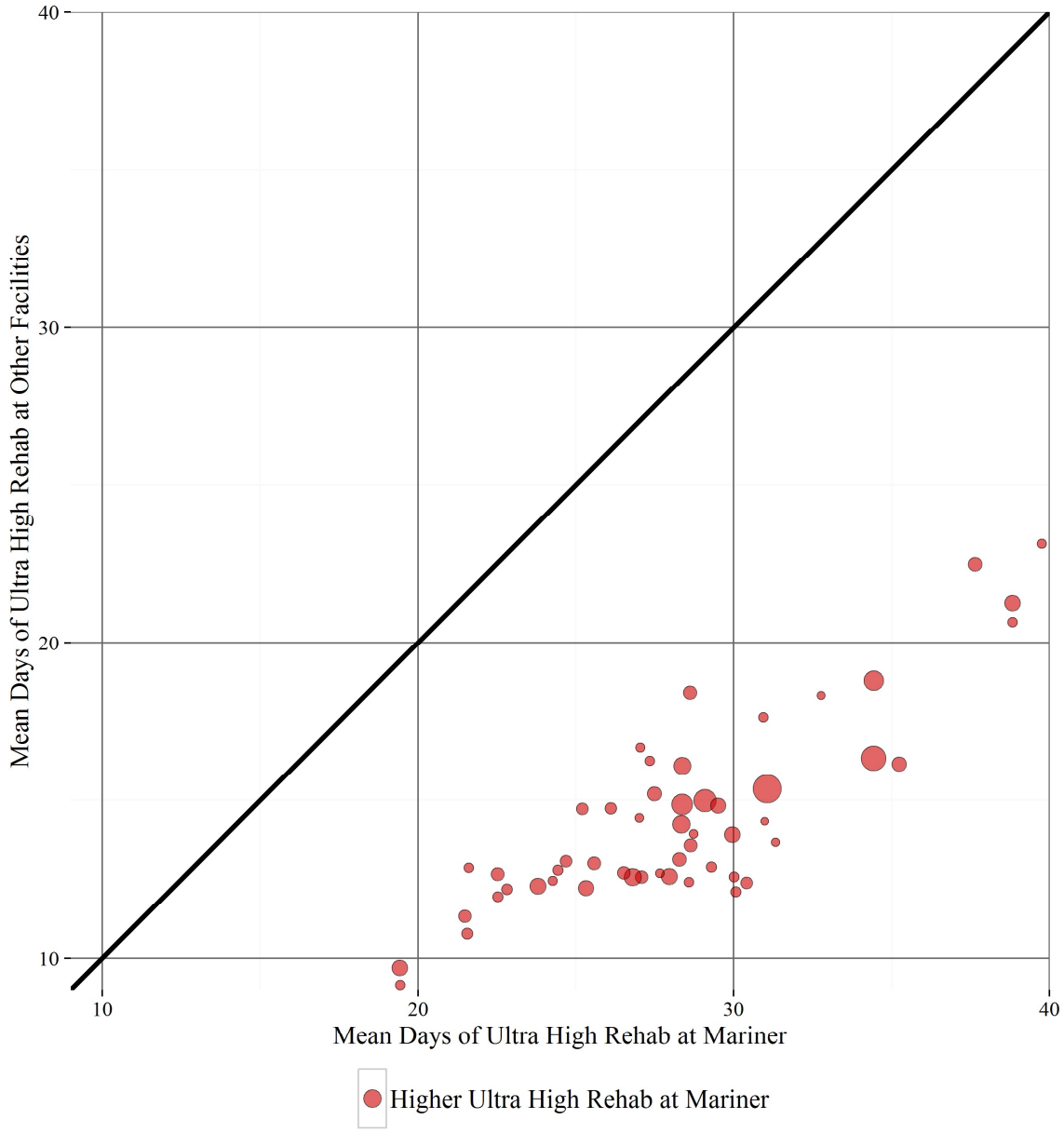
Figure 15. Rate of Ultra High Rehab by SNF Diagnosis for Mariner and Other Facilities.
Panel A of the following figure shows, for 52 SNF principal diagnoses, the average Ultra High Rehab treatment length for patients thus diagnosed at Mariner versus non-Mariner facilities. Each dot represents a particular SNF principal diagnosis, e.g., generalized and specialized osteoarthritis and the size of the dot corresponds to its frequency. Relator only includes diagnoses where at least 30 Mariner patients were thus diagnosed. Panel B compares the distributions of average Ultra High Rehab treatment lengths at Mariner versus non-Mariner facilities for the individual SNF principal diagnosis codes.

Panel A: Scatterplot of Average Ultra High Rehab by SNF Principal Diagnosis



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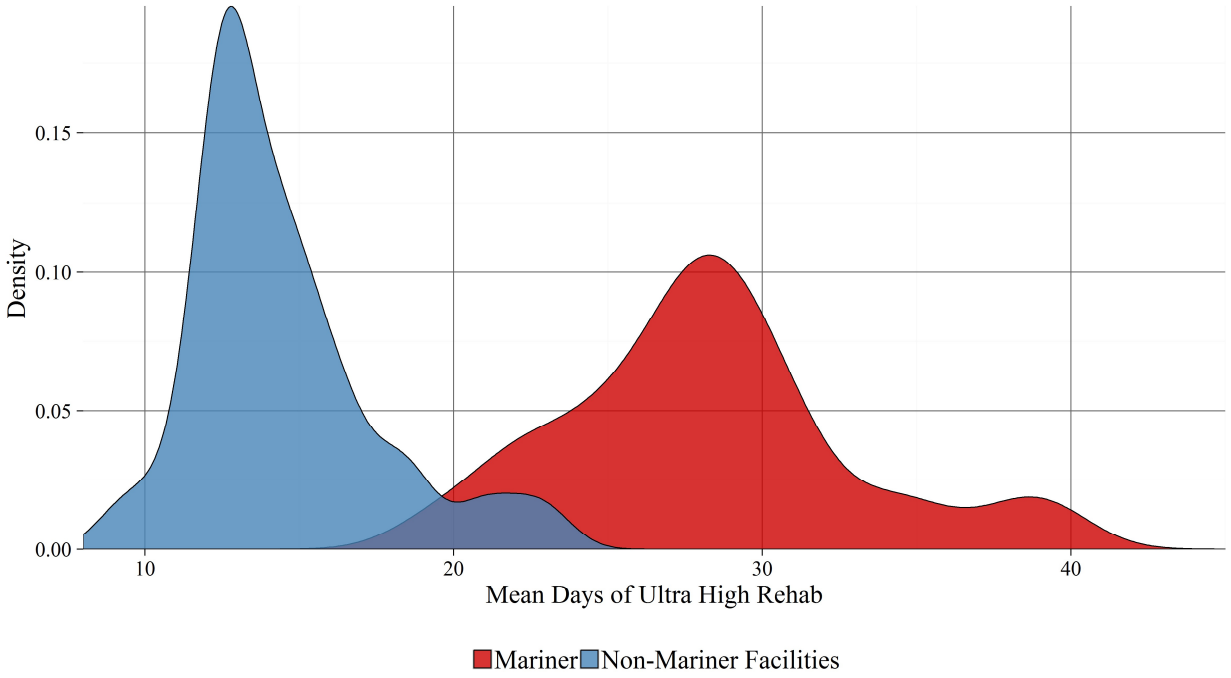
Panel B: Distribution of Average Ultra High Rehab by SNF Principal Diagnosis



(d) Attending Physicians are not Responsible for the Excessive Ultra High Rehab

109. Relator also considered whether the excessive Ultra High Rehab could be caused by the preferences or treatment decisions of physicians who work with patients at Mariner's facilities as opposed to some system-wide decision or corporate directive. Could it be that the physicians who attended to patients at Mariner facilities were more disposed to prescribing more intensive therapy than other physicians? To address this question, Relator analyzed the subset of claims for physicians who worked at both a Mariner facility and other non-Mariner facilities to determine whether their patients receive statistically different amounts of Ultra High Rehab at Mariner than at other facilities. Across all admissions involving doctors that treat at least 10 patients at both Mariner and other facilities, patient admissions at Mariner have on average 29.21 days of Ultra High Rehab whereas claims at other facilities have on average only 18.1 days of Ultra High Rehab, as shown in Figure 16. This means that when the same doctor oversees patients at Mariner and at other

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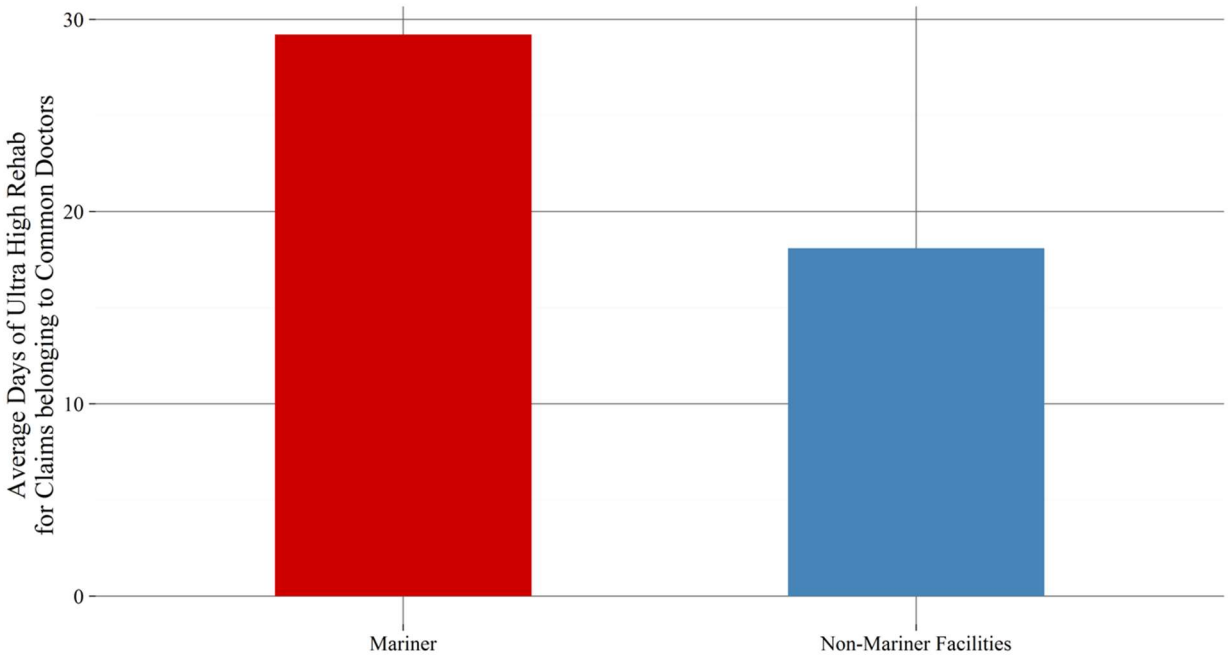
facilities, the patients at Mariner have 11.11 days of additional Ultra High Rehab than patients at other facilities overseen by ***the same doctor***.

Figure 16. Average Days of Ultra High Rehab for Claims Belonging to Common Doctors at Mariner and Other Facilities.
This figure shows the average days of Ultra High Rehab for patients treated by doctors that treat at least 10 patients at Mariner and other facilities.



110. Analyzing each common doctor individually further demonstrates how it is Mariner, not doctors, that is responsible for excessive Ultra High Rehab. As shown in Figure 17, out of 181 doctors who treated at least 10 patients at both Mariner and other non-Mariner facilities, 170 (93.9 percent) had higher average days of Ultra High Rehab at Mariner than at their other facilities. The probability that random chance explains this many doctors having higher rates of Ultra High Rehab among their patients at Mariner than among their patients at other facilities is less than 1 in 100 million. The large statistical significance of this effect indicates it could not simply be due to physician judgment, but instead is indicative of a system-wide intent to provide rehab beyond what is medically reasonable and necessary to maximize revenue. Additionally, Panel B Figure 17 shows the distribution of average Ultra High Rehab days when these physicians work at Mariner versus other

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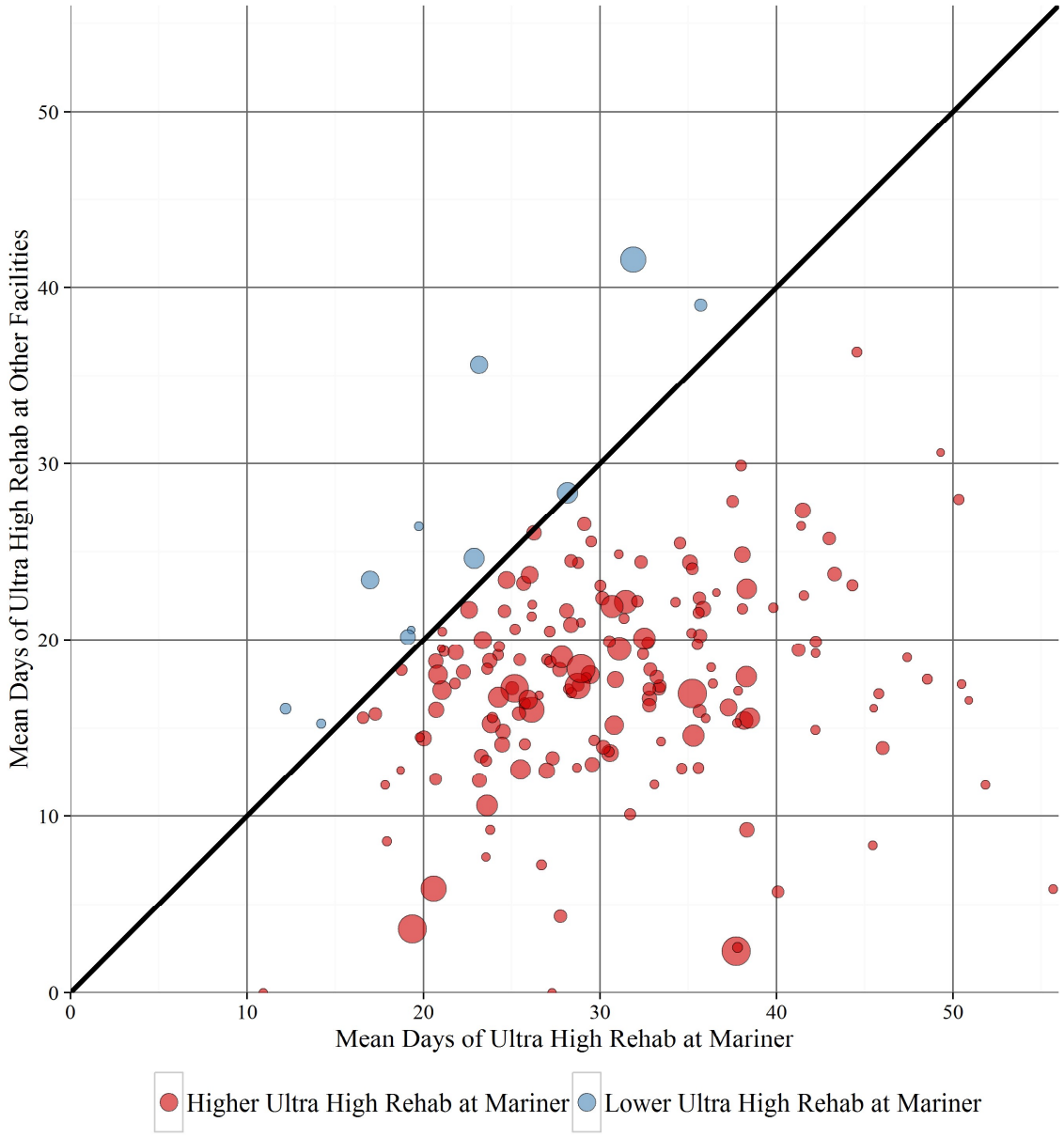
facilities, showing that the exact same doctors are more likely to have patients with excessive amounts of Ultra High Rehab when they are working with patients at Mariner than at other facilities.

Figure 17. Attending Physician Days of Ultra High Rehab at Mariner Versus Other Facilities.
The following figures show the comparison of Ultra High Rehab associated with physicians who treated at least 10 patients at Mariner and other facilities. Panel A plots one point for each attending physician, and shows the average days of Ultra High Rehab at Mariner on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients the doctor had at Mariner. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for these doctors at Mariner versus non-Mariner facilities. The graphs are based on more than 16,000 patient admissions at Mariner and approximately 73,000 patient admissions at other facilities for 181 common doctors.

Panel A: Scatter Plot of Average Ultra High Rehab by Attending Physician



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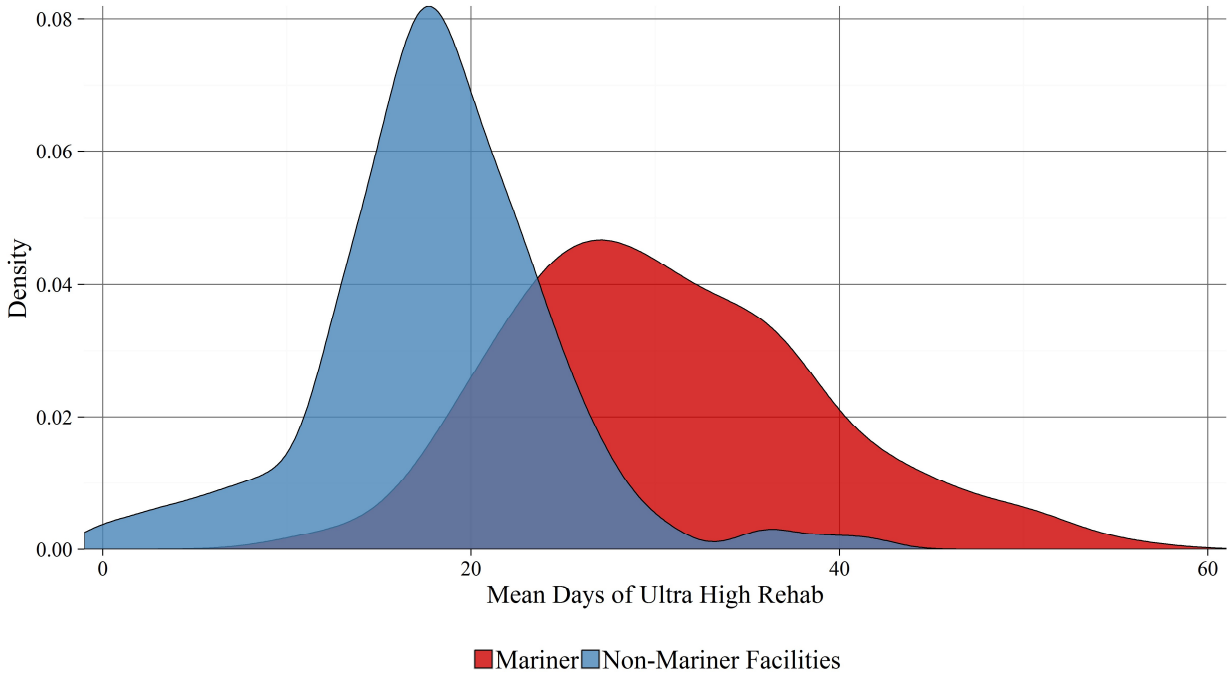
Panel B: Distribution of Average Ultra High Rehab by Attending Physician



111. Thus, the excessive amount of Ultra High Rehab provided at Mariner cannot be explained by the professional opinion or judgment of the physicians serving at Mariner, but is instead due to system-wide practices in place at Mariner through corporate policies or directives.

(e) <u>Excessive Ultra High Rehab is not Explained by the Referring Hospital or the Attending Physician During Patients' Inpatient Hospital Stay</u>

112. Relator considered whether the excessive Ultra High Rehab at Mariner might be related to the patient's prior inpatient hospital stay. Specifically, Relator considered whether it was the referring hospital itself or the patient's attending physician at the referring hospital that influenced the amount of Ultra High Rehab provided. Conceivably, a particular hospital or physician could be treating—and discharging to SNFs—a patient population that required a more intensive rehabilitation therapy. To evaluate this possibility, Relator first considered a subset of hospitals that send at least 10 patients to both Mariner and other facilities and

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compared the average days of Ultra High Rehab when they send patients to Mariner versus to those other facilities.

113. Relator found that the average patient coming from these hospitals receives 29.15 days of Ultra High Rehab at Mariner, but only 17.15 days of Ultra High Rehab when discharged to another SNF. Figure 18 Panel A shows the extent to which patients discharged from the same hospital receive higher amounts of Ultra High Rehab at Mariner than at other facilities. The probability that Mariner would have higher amounts of Ultra High Rehab for patients coming from 77 out of 82 (93.9%) referring hospitals is less than 1 in 100 million. Panel B shows the distribution of Ultra High Rehab across these hospitals, which is shifted significantly to the right for Mariner's patients.

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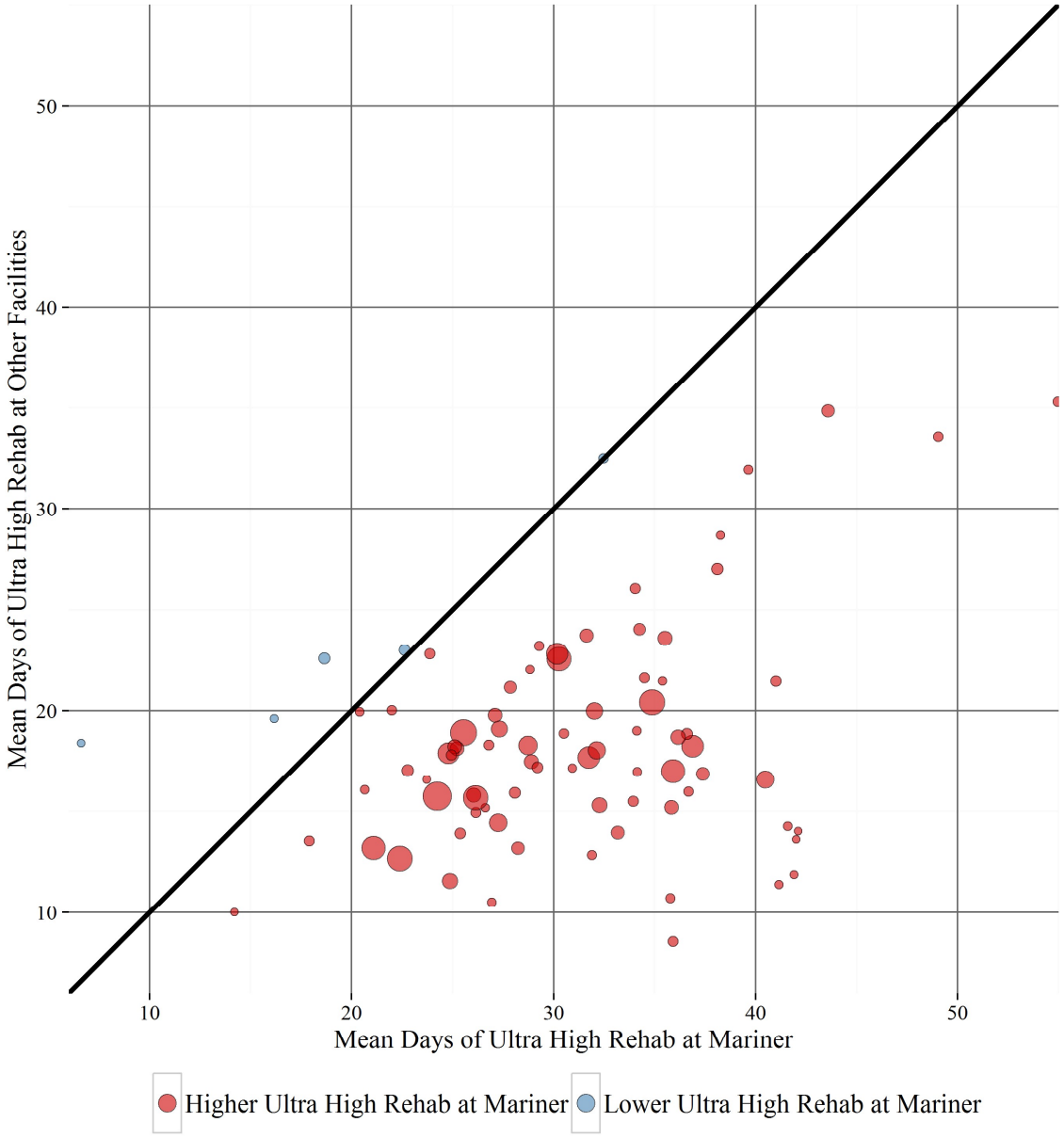
Figure 18. Referring Hospital Days of Ultra High Rehab at Mariner Versus at Other Facilities.
The following figures show the analysis for hospitals that sent at least 10 patients to Mariner and other facilities. Panel A plots one point for each referring hospital and shows the average days of Ultra High Rehab at Mariner on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients discharged to Mariner. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for patients from these hospitals at Mariner versus non-Mariner facilities. The graphs are based on more than 17,000 patient admissions to Mariner and more than 312,000 admissions to other facilities for 82 common referring hospitals.

Panel A: Scatterplot of Average Ultra High Rehab by Referring Hospital



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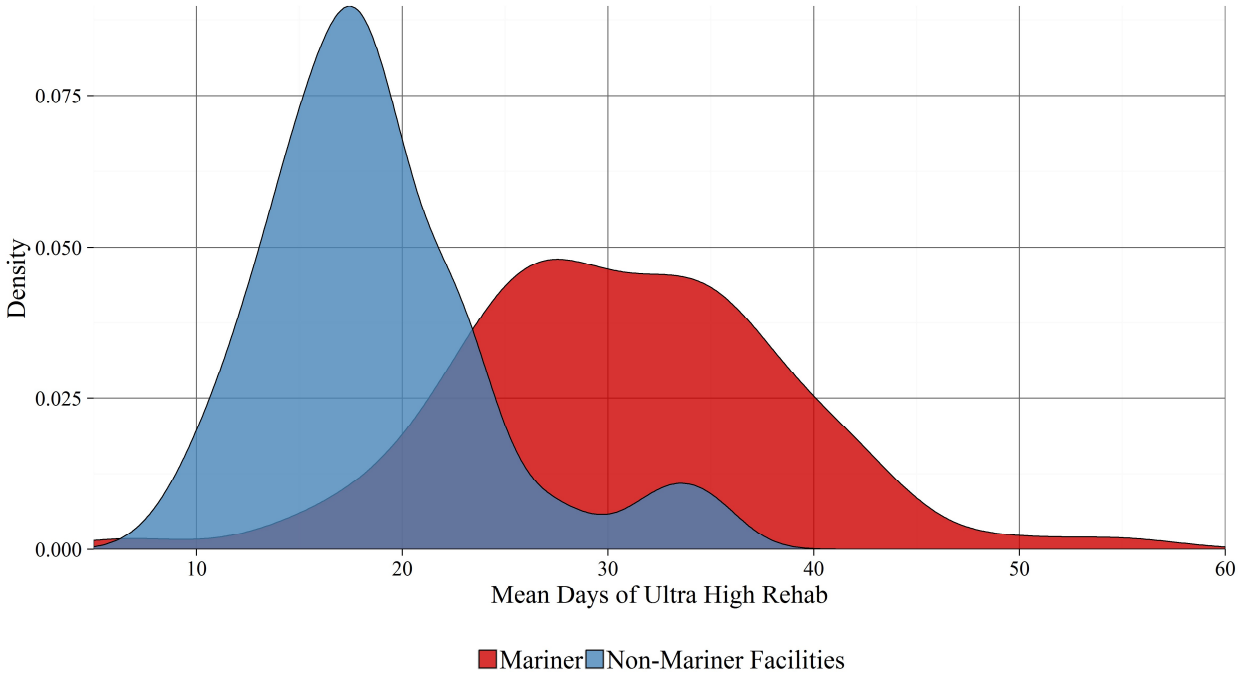
Panel B: Distribution of Days of Ultra High Rehab by Referring Hospital



114. To further consider whether the Ultra High Rehab length could be related to the patient's prior inpatient hospital stay as well as the inpatient attending physician, Relator next analyzed a subset of claims for common inpatient attending physicians that treated at least 10 patients that later were discharged to both Mariner and to other SNFs. Across this subset of claims, the average days of Ultra High Rehab for patients that were treated at Mariner was 29.06 days, compared to 17.7 days at other facilities.

115. The graphs in Figure 19 show that out of 410 common inpatient attending physicians, 373 (91%) had more days of Ultra High Rehab at Mariner than at other facilities. This includes one doctor whose patients on average had 73.4 days of Ultra High Rehab when treated at Mariner, but only 21.28 days of Ultra High Rehab on average when treated at other facilities. Panel A shows the sheer number of doctors whose patients had higher rates of Ultra High Rehab at Mariner versus other facilities, whereas Panel B shows the distribution of days of Ultra High Rehab by inpatient attending physician, illustrating Mariner's significantly higher amounts

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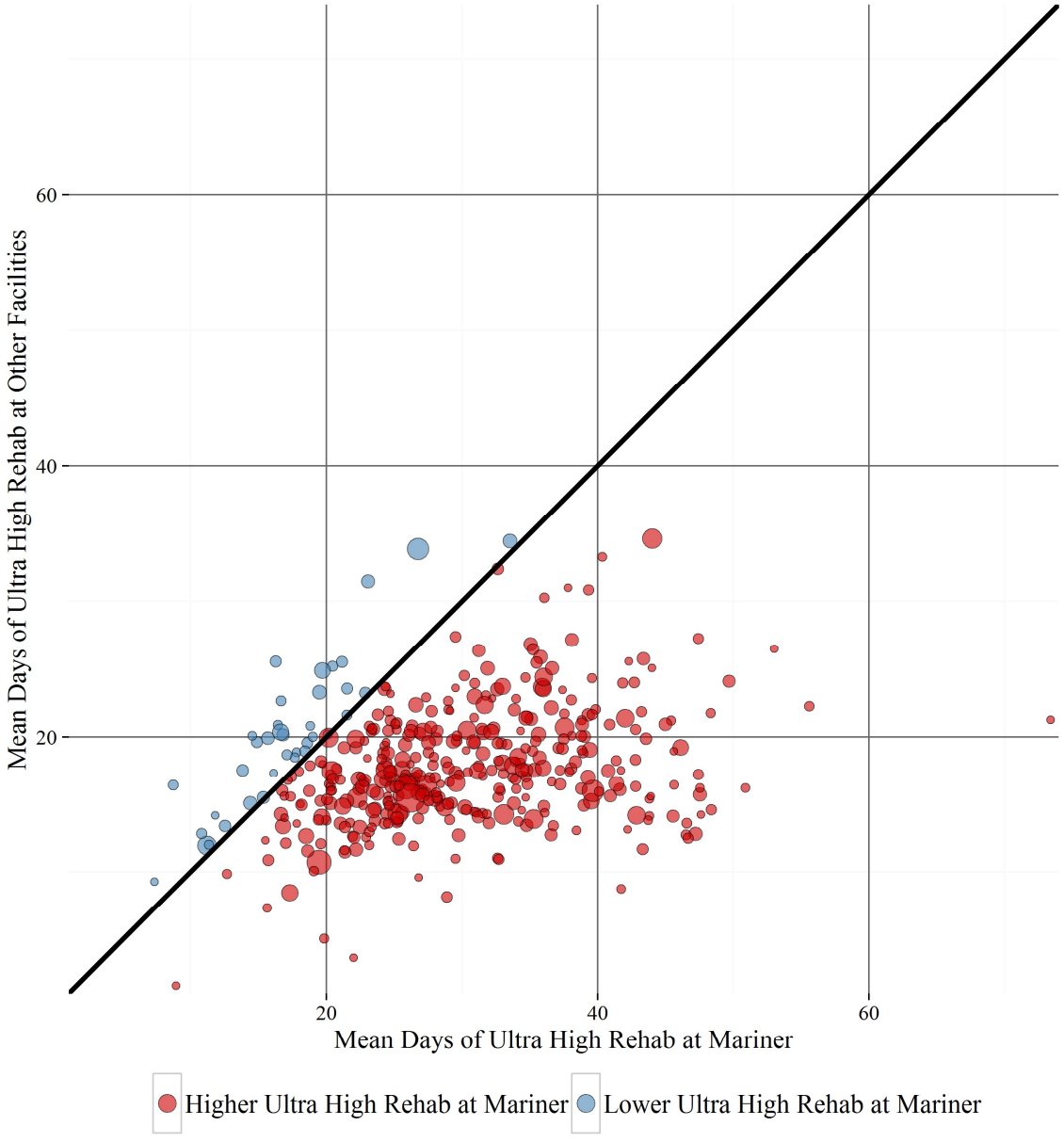
of Ultra High Rehab even for the same physician at different facilities.

Figure 19. Inpatient Attending Physician Days of Ultra High Rehab at Mariner and Other Facilities. Panel A of the following figure shows, for each inpatient attending physician sending patients to both Mariner facilities and other facilities, the average Ultra High Rehab treatment length for patients sent to Mariner versus non-Mariner facilities. Panel B compares the distributions of the averages at Mariner versus non-Mariner facilities.

Panel A: Scatterplot of Average Ultra High Rehab by Inpatient Attending Physician



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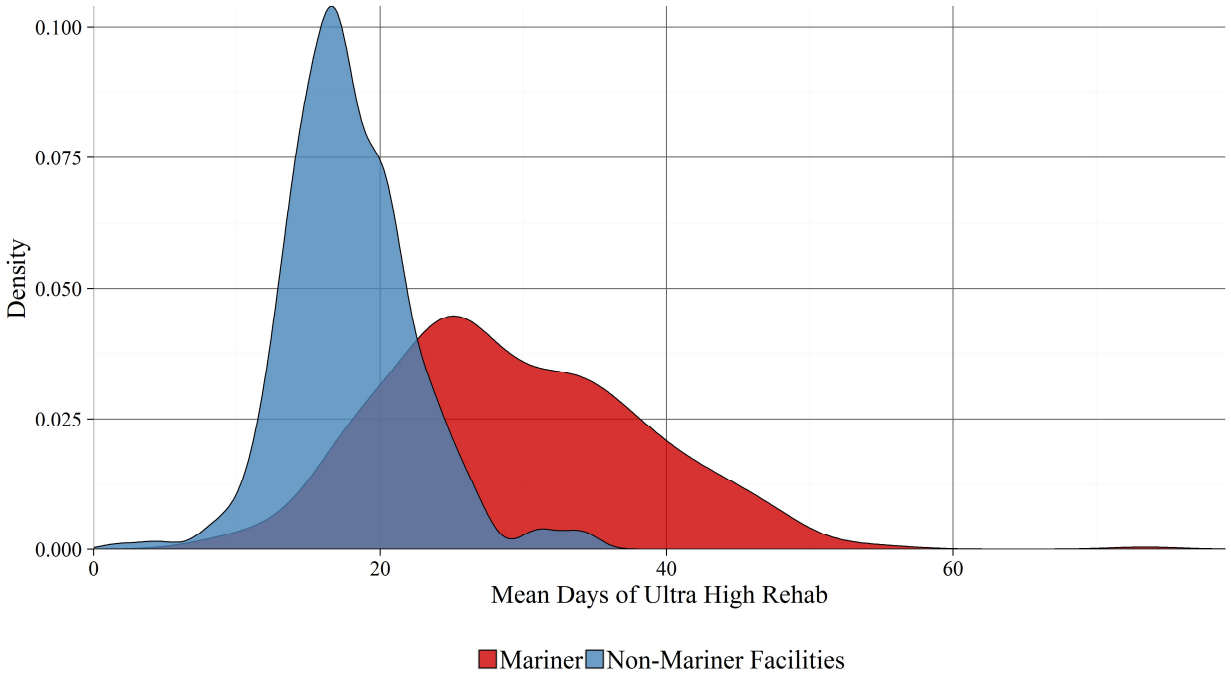
Panel B: Distribution of Days of Ultra High Rehab by Inpatient Attending Physician



116. This analysis shows that the excessive Ultra High Rehab at Mariner cannot be attributed to the patients' inpatient hospital stay prior to their SNF visit. Specifically, the fraudulent activity was not caused by the referring inpatient hospital itself, nor the attending physician during the inpatient hospital stay.

(f) <u>Unique Characteristics of Mariner's Patients do not Account for Excessive Ultra High Rehab</u>

117. Relator also considered whether it might be something else about Mariner's patients that could justify their greater amounts of Ultra High Rehab. Although Relator already considered a variety of patient characteristics in the fixed effect linear regression model, Relator also analyzed the subset of patients that were treated both at Mariner and at least one other SNF. For this subset of patients, the average patient receives 21.95 days of Ultra High Rehab when attending Mariner, and only 13.75 days of Ultra High Rehab when at another SNF.

118. Figure 20 shows that out of 209 patients with at least 3 stays at Mariner and at least 3 stays non-Mariner facilities, 149 (or 71.3 percent) were billed at higher

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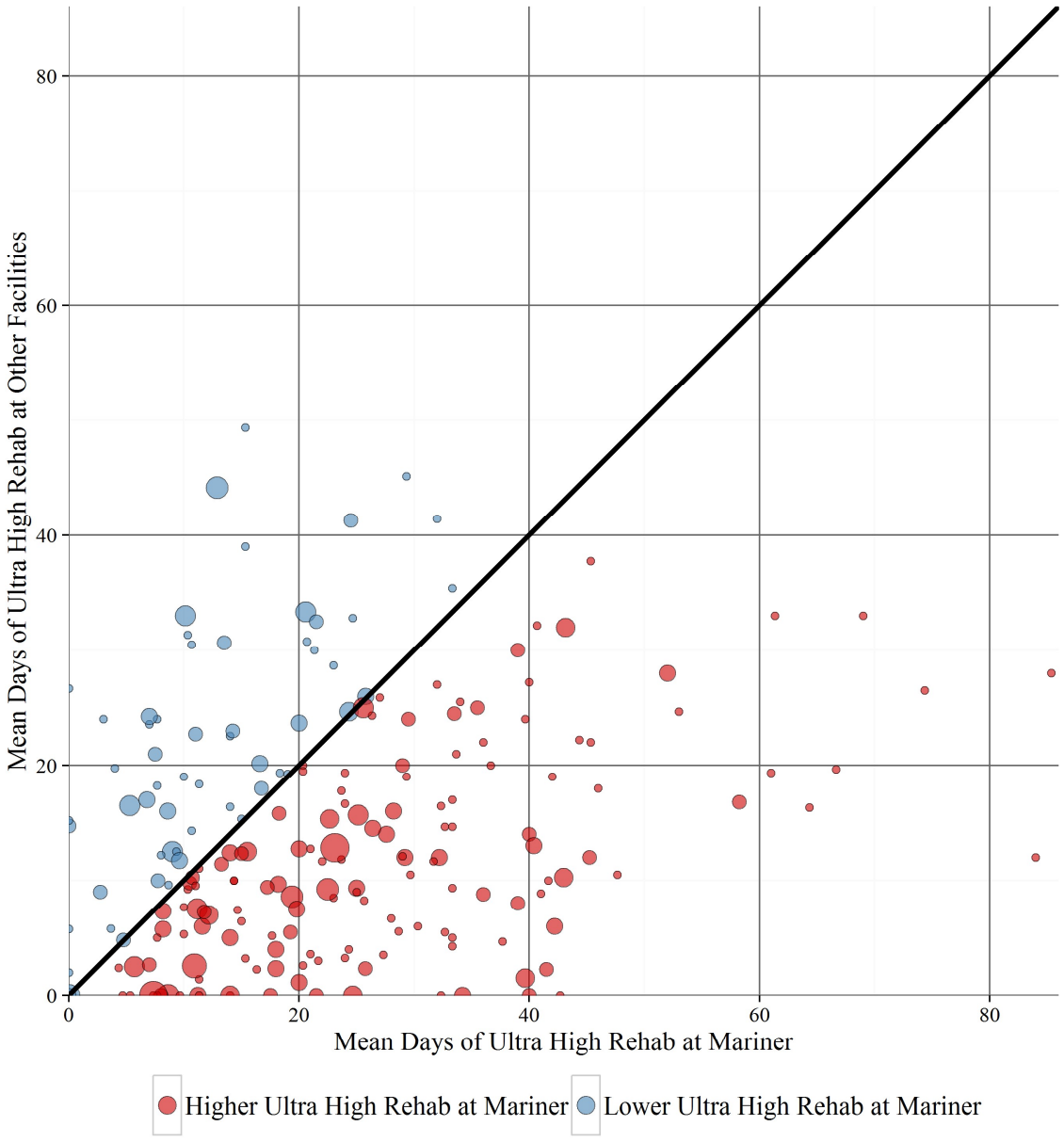
amounts of Ultra High Rehab when visiting Mariner. Panel B of Figure 20 shows the distribution of the days of Ultra High Rehab for the patients admitted to both Mariner and other facilities.

Figure 20. Days of Ultra High Rehab for Patients Admitted to Both Mariner and Other Facilities.
The following figures show the analysis for patients that were treated at least 3 times at Mariner and at least 3 times at non-Mariner facilities. Panel A plots one point for each patient and shows the average days of Ultra High Rehab at Mariner on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patient stays at Mariner. Panel B compares the distribution of the average Ultra High Rehab treatment lengths for these patients' stays at Mariner versus at non-Mariner facilities. The graphs are based on more than 800 patient admissions at Mariner and more than 1,000 admissions at other facilities for 209 common patients.

Panel A: Scatterplot of Average Ultra High Rehab by Common Patient



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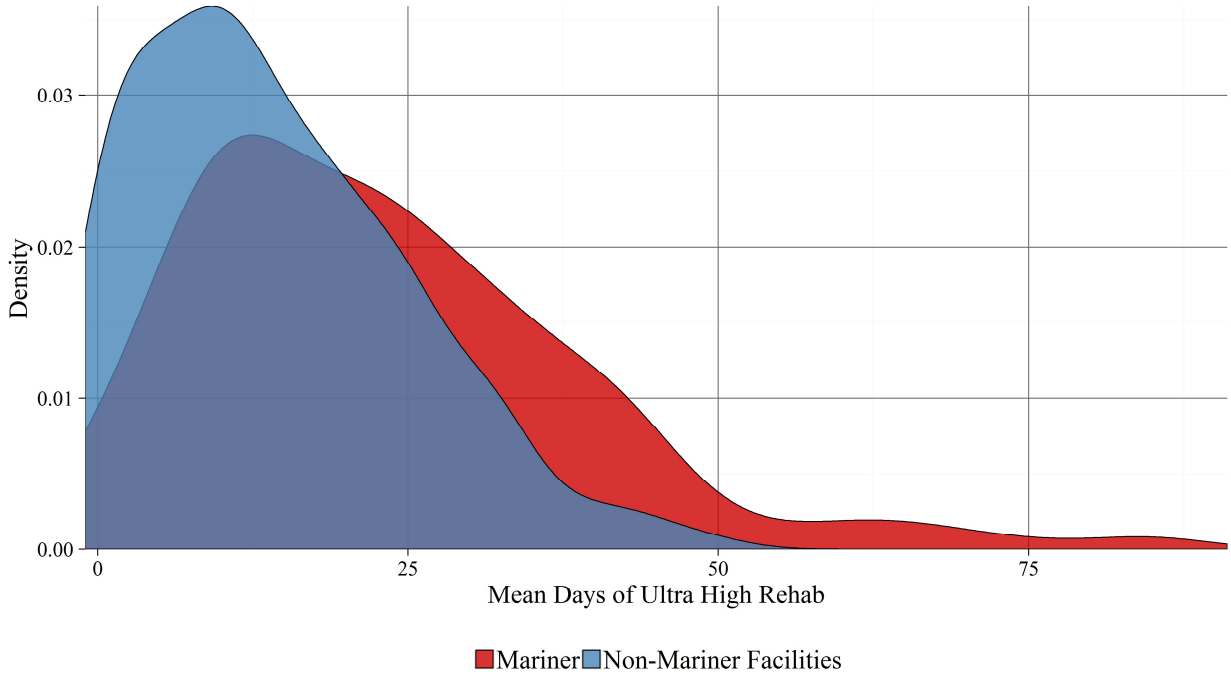
Panel B: Distribution of Days of Ultra High Rehab by Common Patient



119. Even when the ***same patient*** is treated at Mariner and another facility, the patient receives higher rates of Ultra High Rehab when treated at Mariner 71.3 percent of the time. The probability this is due to random chance is less than 1 in 100 million. Thus, the excessive Ultra High Rehab is not due to patient characteristics but to unique practices in place at Mariner.

(g) <u>Summary of Determining What Caused the Excessive Ultra High Rehab</u>

120. Relator has considered a number of potential explanations above to determine what phenomenon or which institution or actor could be responsible for the high amounts of Ultra High Rehab at Mariner. The excessive use of Ultra High Rehab is highly significant across 58 inpatient diagnosis groups and 19 Mariner facilities, indicating that it is not driven by a particular patient medical characteristic nor only a few Mariner facilities. Relator eliminated the possibility that the excessive Ultra High Rehab might be justified by or due to patient characteristics, medical diagnoses or treatment, overseeing physician preferences, patient

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population at referring hospitals or inpatient physician behavior. Based on this, Relator has demonstrated that the only plausible explanation as to the cause of the excessive Ultra High Rehab reimbursements is that Mariner as a system has implemented practices to fraudulently maximize the amount of rehab it can bill to Medicare, beyond what is reasonable and necessary.

5. Mariner Keeps its Patients and Provides Skilled Nursing Services Longer than Necessary

(a) Mariner Consistently Provides an Excessive Length of Stay for Patients Across Principal Diagnosis Groups

121. In addition to providing excessive Ultra High Rehab during the length of stay, the evidence indicates that Mariner is keeping its patients longer than necessary.[42] Relator evaluated whether Mariner's patients needed skilled nursing care during the entirety of their stay at its facilities, or if the length of stay was excessive and unnecessary. Relator examined whether there was also excessive length of stay for patients by examining specific medical conditions upon admission. For the same 58 principal diagnosis categories analyzed previously, Relator found that Mariner keeps patients for longer than other SNFs for all 58 diagnosis categories, indicating that Mariner keeps patients longer than needed for a given medical condition. For example, nationwide, the average patient with Pneumonia; Organism Unspecified will end up receiving approximately 26.58 days of skilled nursing care, whereas the average patient with Fracture of the Neck of Femur (hip) will end up receiving approximately 35.41 days of skilled nursing care at an SNF. Relators method incorporates this expectation that certain diagnoses might require greater amounts of skilled nursing care on average. As a comparison, the average

[42] Length of stay in this section is calculated based on the total days an SNF billed for a patient's skilled nursing services on a given patient admission. This measure does not count days in which the patient stayed at a facility, but the facility was not reimbursed.

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patient with Pneumonia; Organism Unspecified will receive approximately 34.93 days of skilled nursing care at Mariner, and the average patient with Fracture of Neck of Femur (hip) will end up receiving approximately 44.53 days of skilled nursing care at Mariner.

122. Mariner's excessive length of stay across a variety of principal diagnosis code groups is demonstrated in Figure 21. Panel A shows average length of stay at Mariner on the x-axis (horizontal) and the average length of stay at all other non-Mariner SNFs on the y-axis (vertical). Each dot in Panel A represents a principal diagnosis code group (bin) that patients had at their prior inpatient hospital stay. The size of the dots is proportional to the number of claims at Mariner, so that larger dots represent proportionally more claims. If the average length of stay at Mariner for each diagnosis code were similar to the average length of stay at other SNFs, then the dots would cluster on the 45-degree line. In Panel A, the red dots to the right of the 45-degree line show that Mariner had higher lengths of stay for patients in all 58 inpatient principal diagnosis groups. ***The graph demonstrates that Mariner's higher average length of stay is not due to having sicker patients***, but rather is widespread even after controlling for patient's hospital diagnosis prior to admission to an SNF. The probability that random chance explains these many hospital diagnoses groups having patients with higher lengths of stay at Mariner than among their patients at other facilities is less than 1 in 100 million.

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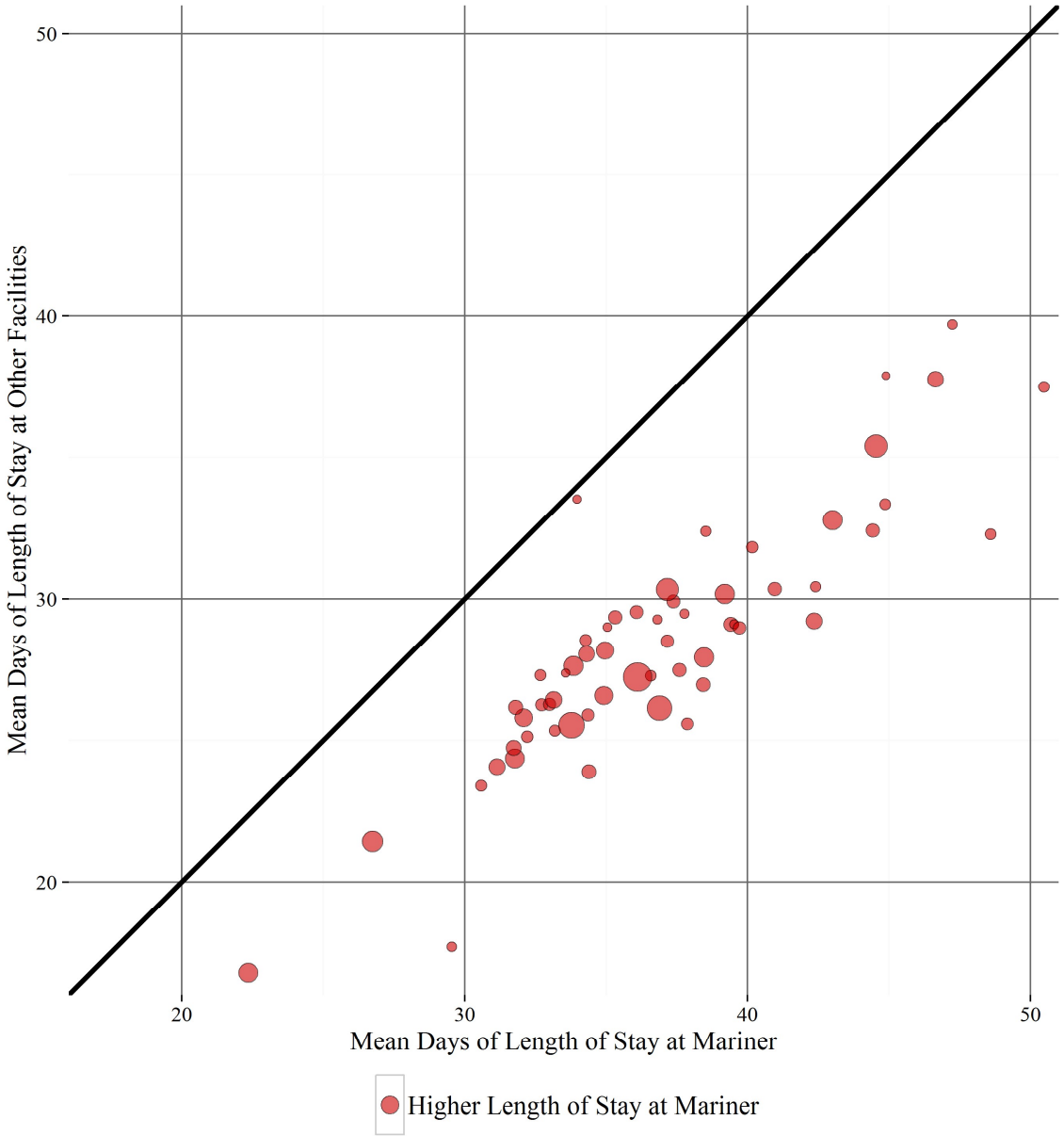
Figure 21. Average Length of Stay for Patients Admitted to Both Mariner and Other Facilities.
Panel A shows, for 58 inpatient principal diagnoses (each represented by a dot), the average length of stay for patients thus diagnosed at Mariner versus at non-Mariner facilities. We include only diagnoses where at least 100 patients were thus diagnosed at Mariner. Panel B shows the distribution of average length of stay at Mariner versus at non-Mariner facilities for each of the principal diagnosis groups.

Panel A: Scatterplot of Average Length of Stay by Inpatient Principal Diagnosis



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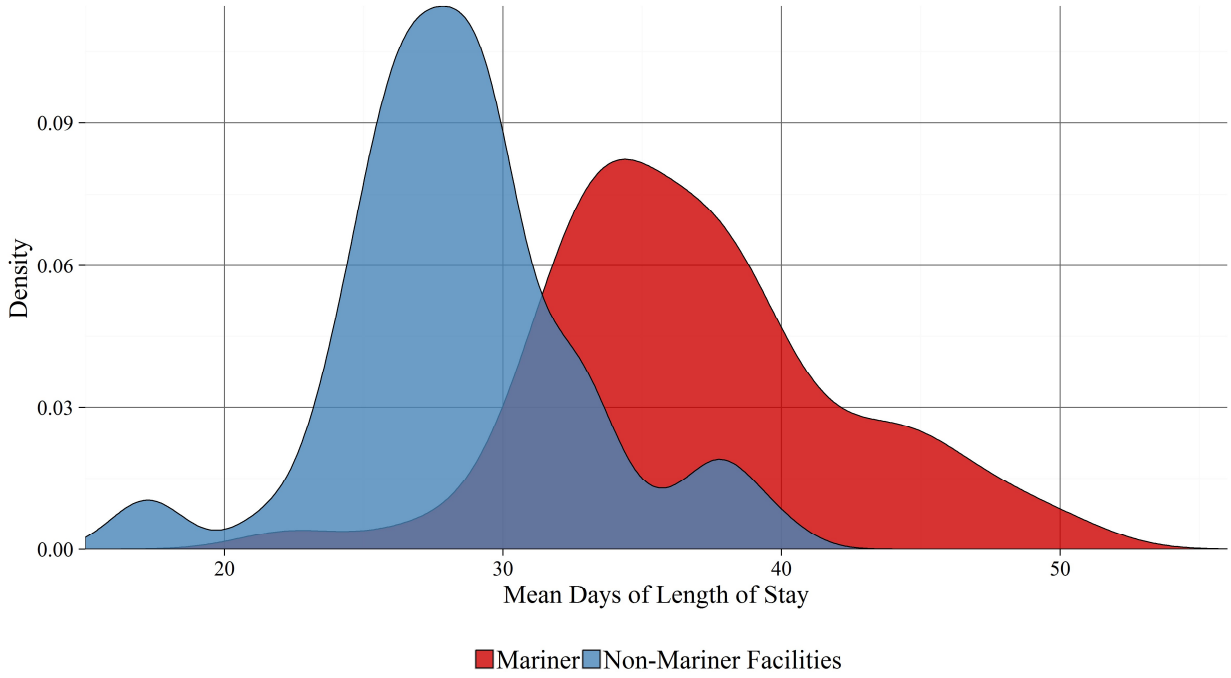
Panel B: Distribution of Average Length of Stay by Principal Diagnosis



123. To illustrate Mariner's excessive length of stay, Mariner had 1,010 patients diagnosed with Other Diseases of the Circulatory System during their inpatient hospital stay prior to admission. These patients on average received 36.89 days of skilled nursing care at Mariner. However, patients at other facilities who were diagnosed with Other Diseases of the Circulatory System only received 15.45 days of skilled nursing care on average.

124. Additionally, for each principal diagnosis code group, Relator calculated the statistical probability that Mariner's average length of stay would exceed the nationwide average length of stay. Relator found that Mariner has statistically significant higher lengths of stay for patients diagnosed under 41 out of 58 of the principal diagnosis groups. These principal diagnosis code groups are identified on Table 5, along with the difference in length of stay and statistical probability. The table is ranked by those diagnoses groups with the most frequent admission at Mariner, and the probabilities shown in the table demonstrate that these differences between Mariner and non-Mariner facilities could not be due to random

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Table 5. Average Length of Stay by Principal Diagnosis Code Group.

Principal Diagnosis Group	# Admissions Mariner	Avg. Length of Stay at Mariner	Avg. Length of Stay at Other Facilities	Mariner Rate Relative to Others	Statistical Significance[43]
Unspecified Septicemia	1,500	36.12	27.23	133%	< 1 in 100 Million
Other Diseases of the Digestive System	1,153	33.77	25.53	132%	< 1 in 100 Million
Other Diseases of the Circulatory System	1,010	36.89	26.13	141%	< 1 in 100 Million
Fracture of Neck of Femur (hip)	815	44.53	35.41	126%	< 1 in 100 Million
Other Injury and Poisoning	770	37.16	30.34	122%	< 1 in 100 Million
Other Neoplasms	633	26.74	21.42	125%	< 1 in 13 Million
Acute Renal Failure	551	33.84	27.62	123%	< 1 in 1 Million
Urinary Tract Infection; Site Not Specified	548	39.19	30.18	130%	< 1 in 100 Million
Other Endocrine; Nutritional; and Metabolic Diseases and Immunity Disorders	542	38.46	27.94	138%	< 1 in 100 Million
Occlusion of Cerebral Arteries	537	43.00	32.79	131%	< 1 in 100 Million
Congestive Heart Failure; Nonhypertensive	523	31.78	24.37	130%	< 1 in 100 Million
Osteoarthritis; Localized	517	22.35	16.78	133%	< 1 in 100 Million
Pneumonia; Organism Unspecified	472	34.93	26.58	131%	< 1 in 100 Million
Other Diseases of the Respiratory System	442	32.08	25.80	124%	< 1 in 327 Thousand
Aspiration Pneumonitis; Food/vomitus	411	34.96	28.17	124%	< 1 in 341 Thousand
Respiratory Failure	373	33.15	26.42	125%	< 1 in 104 Thousand
Other Diseases of the Musculoskeletal System and Connective Tissue	352	31.14	24.08	129%	< 1 in 3 Million
Other Diseases of the Nervous System and Sense Organs	341	42.35	29.22	145%	< 1 in 100 Million
Infection and Inflammation--internal Prosthetic Device; Implant; and Graft	316	34.31	28.05	122%	< 1 in 9 Thousand
Rehabilitation Care; Fitting of Prostheses; and Adjustment of Devices	314	46.65	37.76	124%	< 1 in 1 Million
Obstructive Chronic Bronchitis	281	31.73	24.73	128%	< 1 in 33 Thousand
Cellulitis and Abscess of Leg	254	39.41	29.09	135%	< 1 in 6 Million
Acute Myocardial Infarction	251	34.40	23.88	144%	< 1 in 49 Million

[43] The statistical significance of these represents the probability that the difference between the average length of stay at Mariner and other facilities is due to random occurrences.

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Principal Diagnosis Group	# Admissions Mariner	Avg. Length of Stay at Mariner	Avg. Length of Stay at Other Facilities	Mariner Rate Relative to Others	Statistical Significance[43]
Other Diseases of the Genitourinary System	231	38.43	26.96	143%	< 1 in 22 Million
Fracture of Vertebral Column without Mention of Spinal Cord Injury	217	40.97	30.35	135%	< 1 in 14 Million
E. Coli Septicemia	215	37.60	27.48	137%	< 1 in 479 Thousand
Delirium Dementia and Amnestic and Other Cognitive Disorders	212	44.43	32.41	137%	< 1 in 24 Million
Diabetes with Other Manifestations	206	37.37	29.92	125%	< 1 in 2 Thousand
Other Intracranial Injury	189	39.71	28.97	137%	< 1 in 148 Thousand
Other Central Nervous System Disorders	186	37.17	28.50	130%	< 1 in 15 Thousand
Other Diseases of the Blood and Blood-forming Organs	179	34.36	25.90	133%	< 1 in 110 Thousand
Atrial Fibrillation	167	37.87	25.58	148%	< 1 in 6 Million
Other Mental Illness	154	40.16	31.83	126%	< 1 in 1 Thousand
Congestive Heart Failure	140	33.19	25.34	131%	< 1 in 1 Thousand
Decubitus Ulcer	136	50.47	37.50	135%	< 1 in 138 Thousand
Other Gram Negative Septicemia	134	36.57	27.29	134%	< 1 in 3 Thousand
Fracture of Pelvis	134	44.86	33.35	135%	< 1 in 216 Thousand
Intracranial Hemorrhage	134	48.59	32.29	150%	< 1 in 3 Million
Other Connective Tissue Disease	123	42.41	30.43	139%	< 1 in 363 Thousand
Osteoarthritis; Generalized and Unspecified	115	29.54	17.69	167%	< 1 in 1 Million
Epilepsy	107	39.52	29.12	136%	< 1 in 1 Thousand

125. The excessive length of stay is notable across all claims in the aggregate as well. Figure 22 shows the distribution of the length of stay for all patients at Mariner versus other non-Mariner facilities. As shown in the figure, Mariner's distribution of length of stay is higher than the non-Mariner distribution, demonstrating that Mariner keeps its patients longer than other facilities. For example, 45.63% of Mariner's patients stay at least 30 days, compared to 32.03% of patients at non-Mariner facilities.

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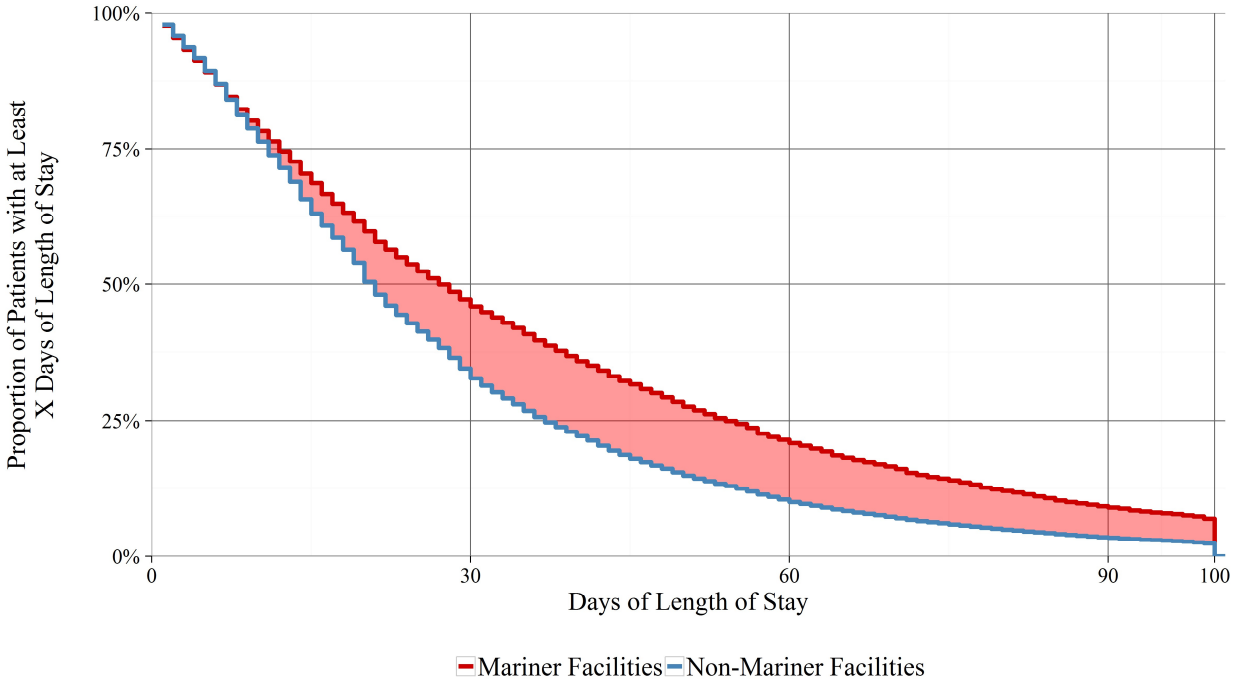
Figure 22. Proportion of Patients by Length of Stay.
This figure shows the percentage of patients receiving at least a given length of stay specified on the x-axis. Mariner's distribution is in red and non-Mariner facilities are in blue.



126. The presence of excessive length of stay at Mariner is even more notable for patients with higher lengths of stay. Specifically, 5.88% of patients at Mariner stay for at least 100 days, whereas only 1.65% of patients at other facilities stay for 100 days or more, meaning Mariner has 3.56 times as many patients receiving 100 days or more of skilled nursing services. Similarly, 19.93% of patients at Mariner stay at least 60 days, whereas only 8.92% of patients at other facilities stay at least 60 days. The probability that these differences are due to random chance are both less than 1 in 100 million. This evidence indicates that Mariner's length of stay is excessive and they are keeping patients an unnecessarily long number of days in their facility.

(b) <u>The Excessive Length of Stay is Systemic Across Mariner Facilities and not Limited to a Few Facilities</u>

127. To consider whether the excessive length of stay is limited to a few facilities or a systemic issue, Relator also analyzed trends for individual Mariner

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facilities and compared them to other individual SNFs. Figure 23 shows the average length of stay provided to patients at all facilities in the United States and is ordered from facilities with the shortest length of stay to the longest. As shown in the figure, the trend of excessive length of stay is prevalent across Mariner facilities (presented in red). All 19 Mariner facilities are in at least the 80th percentile of all facilities based on average length of stay. Out of more than 15,000 facilities with at least 100 Medicare patients, Mariner has 11 facilities in the top 2,000 facilities. It is difficult to overstate how unlikely it would be for this scenario to exist due to random chance. The probability of Mariner having 11 out of 19 facilities in the top 2,000 occurring randomly is less than 1 in 173 thousand,[44] meaning the behavior cannot be attributed to a few rogue facilities, but is instead systemic and consistent throughout the Mariner system. This indicates that the unreasonable and unnecessary length of stay at Mariner is due to directives from the Mariner system.

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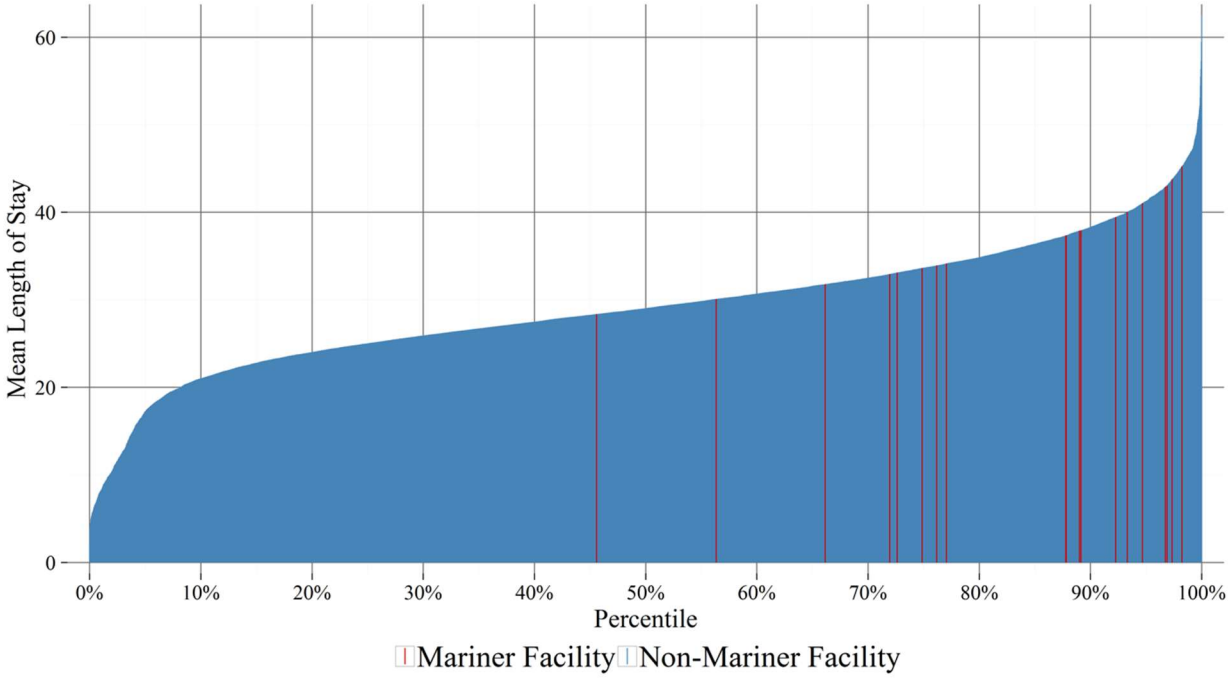
[44] This statistical probability is based on a uniform distribution. For example, since there are more than 15,000 SNFs, the top 2,000 facilities would be equivalent to the top 13.22% of facilities. Hence, we should only expect that 13.22% of Mariner's 19 facilities, or only 2.5 of its facilities, should be among the top 2,000 facilities, as opposed to 11 Mariner facilities, which we observe.

Figure 23. Distribution of Average Length of Stay by Individual SNF.
The following figure shows, for every SNF that treated at least 100 patients, the average number of Ultra High Rehab treatment days across all patients in that facility. Mariner facilities are highlighted in red. This graph comprises more than 15,000 SNFs.



(c) Patient Characteristics and Demographics do not Explain the Excessive Length of Stay at Mariner

128. Relator also considered whether the extra length of stay could be attributed to a variety of other factors, including patient characteristics such as age, gender, and race, county-level demographic factors such as unemployment rate, and patient health characteristics such as principal diagnosis code, secondary diagnosis codes, and whether the patient had surgery. To do this, Relator ran the fixed effect linear regression model discussed in Equation 1 on page 54. For this regression, Relator used the patient's total length of stay as the dependent variable to calculate Mariner's precise impact on a patient's projected length of stay. This regression allowed Relator to isolate the impact that being treated at Mariner would have on a patient's expected length of stay at an SNF. For example, Relator has found that, given two patients with the same age and gender, from the same county, with the same principal and secondary diagnoses from their prior hospital inpatient stay,

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same surgery status, and hospital inpatient same length of stay, the Mariner patient would have a length of stay that is on average 7.75 more days longer than the patient at a non-Mariner facility.

129. The results of the regression are shown in Table 6. The Mariner coefficient for length of stay is 7.75. This means that after controlling for the characteristics included in Equation 1 on page 54 above, patients at Mariner can be expected to be treated an extra 7.75 days beyond the average length of stay at other facilities. This result is highly statistically significant with the probability that this observed difference is due to random chance being less than 1 in 100 million. The regressions demonstrate that the length of stay at Mariner is extremely outside of the norms of what is acceptable and reasonable in industry for patients with similar characteristics.

Table 6. Results of Fixed Effect Linear Regression Model for Length of Stay
Relator used a linear regression to analyze approximately 13 million admissions at Mariner and other SNFs. The results are presented in the following table. The coefficient is listed first and the p-value is in parenthesis, which represents the statistical significance of the coefficient. A lower p-value means the result is more statistically significant. Coefficients were not included for categorical variables and instead are labeled with a "Yes" to indicate the variable was controlled for in the regression. The Mariner coefficient is added to the length of stay at other facilities to get the expected Mariner length of stay after including controls.

	Regression Coefficients *(See description in table header)*
Poverty Rate	-0.015 (<0.0001)
Unemployment Rate	-0.1573 (<0.0001)
Log Median Income	-1.3122 (<0.0001)
No High School Diploma Rate	0.1931 (<0.0001)
Season Control Variables	Yes
Age Control Variables	Yes
Sex Control Variables	Yes
Inpatient Length of Stay × Inpatient Principal Diagnosis Category	Yes
Inpatient Surgical DRG × Inpatient Principal Diagnosis Category	Yes
Inpatient Secondary Diagnosis Categories	Yes
RUCC Control	Yes
Mariner Coefficient for Unexplained Length of Stay	7.75 (<0.0001)

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Other Facilities Average	28.06
Mariner Calculated Effect	**35.81**
Mariner Relative Effect	**127.62%**

130. Another regression method to estimate Mariner's effect on length of stay is to estimate the regression without the skilled nursing chain variable and create an estimate of the expected length of stay for each individual claim. For each skilled nursing chain, the average difference between the predicted length of stay from the regression and the actual length of stay billed on the claim is calculated, which is referred to as a residual. The difference between these two values represents the unexplained length of stay that is caused by each skilled nursing chain. Figure 24 shows the average unexplained length of stay for each skilled nursing chain, with Mariner plotted in red. Mariner's average unexplained length of stay by this measure is 7.7 days, making it the 8th highest among all skilled nursing chains with at least 5,000 claims.

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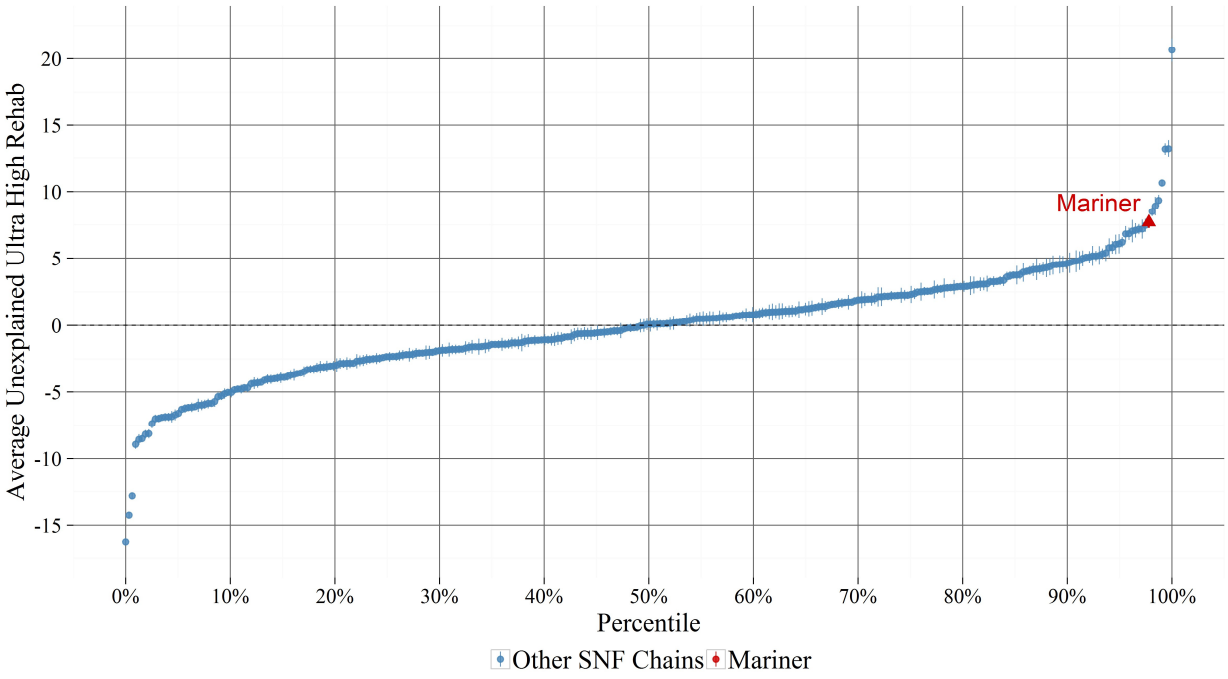
Figure 24. Average Unexplained Length of Stay for SNF Chains.
The following figure plots the results of the regression from Equation 1, but run without the Mariner fixed effect variable and with the dependent variable of length of stay. All other variables included were the same. The regression was run based on 318 SNF chains with at least 5,000 patient admissions from 2011 through 2016Q3. The small vertical lines off of the point estimates represent the confidence interval for the systems' unexplained Ultra High Rehab. Since chains with at least 5,000 admissions were included, the large number of claims result in small confidence intervals.



131. This evidence indicates that not only is Mariner providing excessive Ultra High Rehab, but Mariner is also keeping patients longer than necessary. These results are statistically significant at an extremely high level and cannot be explained by other patient and demographic characteristics.

(d) <u>Attending Physicians are not Responsible for the Excessive Length of Stay</u>

132. Relator also considered whether the extra length of stay could be caused by the preferences or treatment decisions of physicians who work with patients at Mariner's facilities as opposed to some system-wide decision or corporate directive. To address this, Relator analyzed the subset of claims for physicians who worked at both a Mariner facility and other non-Mariner facilities, to determine whether their patients receive statistically longer lengths of stay at

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Mariner than at other non-Mariner facilities. Across all admissions involving doctors that treat at least 10 patients at both Mariner and other facilities, patients at Mariner have an average length of stay of 36.15 days at Mariner, whereas patients treated by the same doctors at non-Mariner facilities have an average length of stay of only 28.39 days. This means that when the same doctor oversees patients at both Mariner and non-Mariner facilities, the patients at Mariner have a length of stay that is 7.76 days longer on average, or 27.33 percent longer.

133. Analyzing each common doctor individually further demonstrates how it is Mariner, not doctors, that is responsible for excessive length of stay. As shown in Figure 25, out of 181 doctors who treated at least 10 patients at both Mariner and other non-Mariner facilities, 152 (84.0 percent) had higher average length of stay at Mariner than at their other facilities. The probability that random chance explains these many doctors having patients with higher lengths of stay at Mariner than among their patients at other facilities is less than 1 in 100 million.

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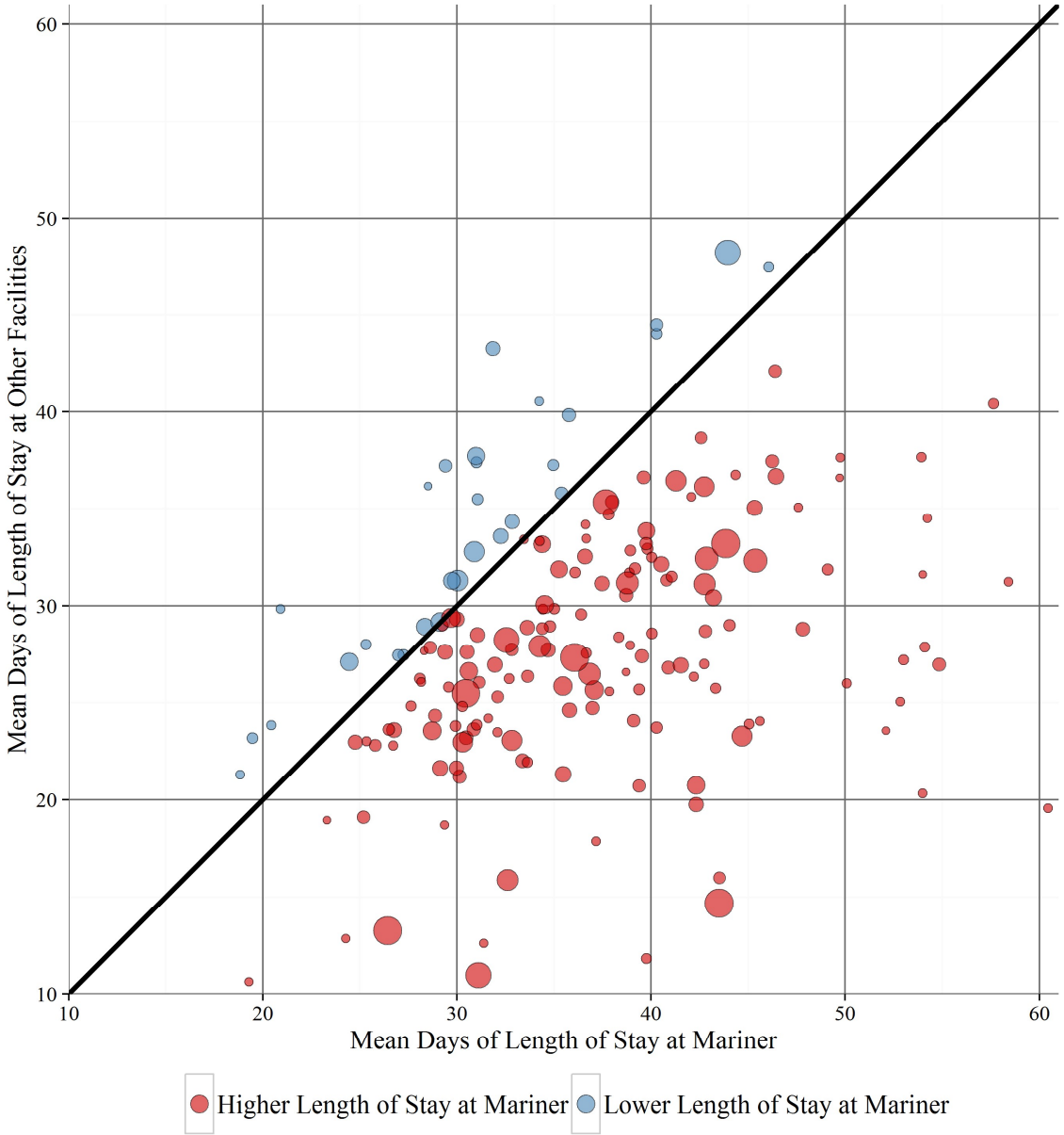
Figure 25. Attending Physician Average Length of Stay at Mariner Versus Other Facilities.
The following figures show the comparison of average length of stay associated with physicians who treated at least 10 patients at Mariner and other facilities. Panel A plots one point for each attending physician, and shows the average length of stay at Mariner on the x-axis and at other facilities on the y-axis. The size of the dot corresponds to the number of patients the doctor treated at Mariner. Panel B compares the distribution of the average length of stay for these doctors at Mariner versus non-Mariner facilities. The graphs are based on more than 16,000 patient admissions at Mariner and approximately 73,000 patient admissions at other facilities for 181 common doctors.

Panel A: Scatter Plot of Average Length of Stay by Attending Physician



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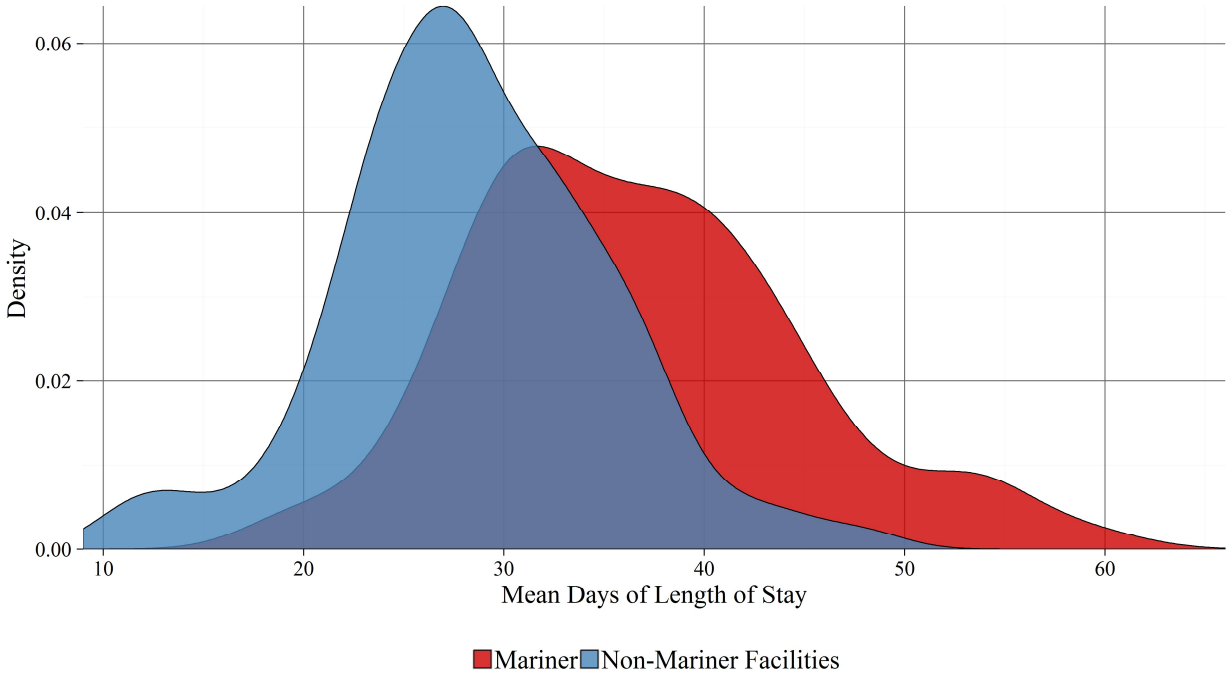
Panel B: Distribution of Average Length of Stay by Attending Physician



134. Thus, the excessive length of stay provided to patients at Mariner cannot be explained by the professional opinion or judgment of the attending physicians serving at Mariner, but is instead due to system-wide practices in place at Mariner through corporate policies or directives.

6. <u>Economic Damages</u>

135. Relator employed a robust and conservative methodology to quantify the economic damages caused by Mariner's fraudulently excessive Ultra High Rehab and length of stay. Such analysis shows that the amount of Ultra High Rehab provided to patients is unnecessary and unreasonable, and in many cases, the patients did not need skilled nursing care for the entirety of their admission.

136. Relator has limited this complaint to only the most extreme cases—*i.e.*, for inpatient diagnosis categories in which Mariner billed for Ultra High Rehab at least two times the rate of other facilities or at least 6 more days on average. Additionally, only results that were statistically significant at a rate of at least 1 in 1,000—or almost certainly not random—were considered fraudulent.

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137. To calculate damages, Relator compared Mariner's average days of Ultra High Rehab to the average days of Ultra High Rehab at non-Mariner facilities, then multiplied those excessive days of Ultra High Rehab by the additional revenue per day Mariner received by billing for Ultra High Rehab. To determine this additional revenue per day that Mariner received for Ultra High Rehab, Relator first calculated the average per diem rate at Mariner for each rehab category as shown in Table 7.[45] The values in the table enable Relator to calculate the additional revenue Mariner received for Ultra High Rehab relative to different levels of therapy, ranging from a high of $574.17 per day when compared to a patient who should have been discharged to a low of $101.78 per day when compared to a patient should have received Very High Rehab.[46]

Table 7. Per-diem reimbursement by category
The following table shows the weighted average reimbursement for each category of rehab, based on the 2011-2016 SNF reimbursement schedule. Payments were weighted based on Mariner's distribution of claims among all of the RUGs.

Category	Therapy Amount	Average Per Diem Rate
Ultra High Rehab	720+ minutes per week	$574.17
Very High Rehab	500 – 720 minutes per week	$472.39
High Rehab	325 – 499 minutes per week	$413.19
Medium Rehab	150 – 324 minutes per week	$366.44
Low Rehab	45 – 150 minutes per week	$372.70
No Rehab	Less than 45 minutes per week	$321.34

138. Next, to determine the specific amount of therapy that would have been provided at Mariner had it not fraudulently billed for excessive Ultra High Rehab, Relator calculated the average amounts of Very High Rehab, High Rehab, Medium Rehab, Low Rehab and No Rehab billed at non-Mariner facilities for each day of

[45] These amounts are calculated before any adjustments to Mariner's payments based on geographic or other factors. As a result, this allowed Relator to calculate only the marginal revenue that is obtained by moving up to higher categories, independent of regional adjustments which Mariner would get regardless.

[46] To calculate the additional revenue from Ultra High Rehab for a patient who should have received Very High Rehab, we take the difference between the average per diem rates for the two levels of therapy: $574.17 - $472.39 = $101.78.

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stay, given a particular inpatient principal diagnosis. Then, Relator reallocated Mariner's excessive days of Ultra High Rehab to the lower therapy levels as determined by the average amounts at non-Mariner facilities, starting with Very High Rehab and working down towards the lower categories of rehab until the remaining days represent days in which the patient should not have remained in the SNF. For the 33 principal diagnosis code categories in which Relator determined with statistical significance that Mariner was excessively treating patients with a longer length of stay, Relator assigned any remaining days of Ultra High Rehab to excessive length of stay, meaning the patient should have been discharged. For the remaining principal diagnosis codes for which Mariner does not provide a statistically significant excessive length of stay, Relator allocated all remaining days to the No Rehab category.

139. Once the extra days have been allocated to the lower rehab categories, Relator used the average payment difference between Ultra High Rehab and the other categories from Table 7 to calculate the additional revenue obtained per patient per day due to the Ultra High Rehab. Relator then multiplied the additional revenue per patient day by the number of excessive days of Ultra High Rehab Mariner provided, which yielded the total additional revenue Mariner made per claim.

140. Since a portion of the patient's stay beyond 20 days requires an average coinsurance payment of $150.75,[47] other payers would also be defrauded when the patient was kept in the SNF longer than when medically necessary. The coinsurance could be covered by another form of insurance, such as Medi-Cal, or paid directly by the individual beneficiary to the facility. Relator calculated the additional dollar value of the coinsurance Mariner would have received on its false claims for unnecessary Ultra High Rehab provided after the 20th day of the benefit period.

[47] This represents the average coinsurance payment from 2011 through 2015.

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Relator removed these amounts from the damages calculated against Medicare.

141. The total value of the fraud committed against Medicare totaled $94.58 million, representing $362.20 per patient per day among Mariner's fraudulent claims. Mariner also submitted false claims to Medi-Cal in an amount to be proven at trial, which arose from coinsurance payments on Mariner's excessive rehabilitation that lasted longer than 20 days.[48] These damages will increase as long as Defendants' fraud is allowed to continue.[49]

142. It should be noted that Relator's analysis is also conservative because it compares Mariner to all other SNFs receiving Medicare reimbursements, which includes a number of SNFs that have already settled with the US Department of Justice for the same type of fraud Relator is alleging in this complaint.[50] Incidentally, these are facilities that the Relator's methodology also identified as engaging in fraudulent billing. Therefore, the existence of the fraudulent claims submitted by these systems, along with other potentially fraudulent claims from

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[48] If Mariner's Medicare patients were dual enrolled in Medi-Cal at a similar rate to the county-level averages, then 24.21% of Mariner's patients would be on Medi-Cal and 24.21% of copayments would be paid by Medi-Cal. This would total an additional $4.17 million in damages to Medi-Cal. If Mariner had a higher proportion of Medi-Cal patients or its dual enrolled patients stayed longer than Medicare-only patients on average, then damages to Medi-Cal would increase. Relator used the *All County-Level Profiles* (2012 Data), which was produced by Medicare-Medi-Cal Coordination Office and is available at https://goo.gl/4tu6wh.

[49] As noted previously, only claims for patients admitted prior to October 1, 2016 were analyzed by the Relator to allow for analysis of the patient's entire length of stay. Relator also analyzed the associated inpatient hospital claims data from CMS for the SNF patients.

[50] For example, the comparison list of facilities includes claims filed by Life Care Centers of America Inc. and Kindred Healthcare Inc., which settled with the Department of Justice for $145 million and $125 million respectively over allegations that these organizations were providing excessive therapy to maximize reimbursement.

other systems, causes the Relator's calculation of the amount of fraud to understate the true amount of fraudulent reimbursement billed by Mariner. Additionally, Relator only calculated damages from the excessive length of stay for the days in which the patient received Ultra High Rehab. Patients continue receiving rehab and other skilled nursing services during the excessive length of stay, and including these extra days in the damage calculation would increase the total damages. Nevertheless, the damage numbers are estimates and could change based on consideration of additional information.

143. Relator's consideration of other possible explanations, such as claim characteristics, patient characteristics, and doctor practices, demonstrates that the excessive Ultra High Rehab practices were intentionally implemented by Mariner across the facilities in their system. Additionally, the extremely high levels statistical significance of the analyses across a variety of comparative settings indicate a nearly impossible probability that the practices are due to random chance. Thus, Relator's damage estimate of $94.58 million for Mariner's fraudulently excessive Ultra High Rehab is robust when controlling for a variety of factors.

CAUSES OF ACTION

COUNT ONE

Violation of the Federal False Claims Act, 31 U.S.C. § 3729(a)

(Against All Defendants)

144. Relator repeats and realleges every allegation contained above as if fully set forth herein.

145. As described above, Defendants have submitted and/or caused to be submitted false or fraudulent claims to Medicare by falsifying information concerning the amount and duration of rehabilitation needed by and/or provided to patients; and by failing to report and return overpayments from Medicare within the required time.

146. Defendants, by the conduct set forth herein, have violated:

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(a) 31 U.S.C. § 3729(a)(1)(A) by knowingly presenting, or causing to be presented, false or fraudulent claims for payment or approval; and/or

(b) 31 U.S.C. § 3729(a)(1)(B) by knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim; and/or

(c) 31 U.S.C. § 3729(a)(1)(G) by knowingly making, using, or causing to be made or used, a false record or statement material to an obligation to pay or transit money or property to the government, or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay or transmit money or property to the government.

147. The United States has suffered and continues to suffer damages as a direct proximate result of Defendants' false or fraudulent claims.

COUNT TWO

Violation of the California False Claims Act, Cal. Gov't Code § 12651(a)

(Against All Defendants)

148. Relator repeats and realleges every allegation contained above as if fully set forth herein.

149. As described above, Defendants have submitted and/or caused to be submitted false or fraudulent claims to Medi-Cal by falsifying information concerning the amount and duration of rehabilitation needed by and/or provided to patients; and by failing to report and return overpayments from Medi-Cal within the required time.

150. Defendants, by the conduct set forth herein, have violated:

(a) Cal. Gov't Code § 12651(a)(1) by knowingly presenting, or causing to be presented, false or fraudulent claims for payment or approval; and/or

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(b) Cal. Gov't Code § 12651(a)(2) by knowingly making, using or causing to be made or used, a false record or statement material to a false or fraudulent claim; and/or

(c) Cal. Gov't Code § 12651(a)(7) by knowingly making, using, or causing to be made or used, a false record or statement material to an obligation to pay or transmit money or property to the government, or knowingly concealing or knowingly and improperly avoiding or decreasing an obligation to pay or transmit money or property to the government.

PRAYER FOR RELIEF

WHEREFORE, Relator prays for relief and judgment, as follows:

(a) Defendants pay an amount equal to three times the amount of damages the United States has suffered because of Defendants' actions, plus a civil penalty against Defendants of not less than $10,957 and not more than $21,563 for each violation of 31 U.S.C. § 3729 and Cal. Gov't Code § 12651(a);

(b) Relator be awarded the maximum amount allowed pursuant to 31 U.S.C. § 3730(d) and Cal. Gov't Code § 12652(g);

(c) Relator be awarded all costs of this action, including attorneys' fees, expenses, and costs pursuant to 31 U.S.C. § 3730(d) and Cal. Gov't Code § 12652(g); and

(d) Relator and the United States be granted all such other relief as the Court deems just and proper.

JURY TRIAL DEMANDED

Relator hereby demands a trial by jury.

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DATED: February 19, 2020

Respectfully submitted,

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